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Recycling 2.0

Tales from China

Raw Material: LOT-EK



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Re:USE

Above: ESPN waiting lounge, JFK Airport, New York (2004).
Design: LOT-EK (see page 38). A petroleum trailer tank is transformed into a space for lounging and watching television. Photo courtesy LOT-EK.
Cover: Details, past covers of *ArchitectureBoston*.

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Second Life

Zombies.

(Now that I have your attention, we'll get back to the undead in a moment.)

Those who are the children of Depression-era babies probably grew up with the mantra "Use it up, wear it out, make it do, do without" — much as kids now are taught the somewhat more plodding "Reduce, reuse, recycle." The transmission of cultural values, particularly those encouraging restraint of any sort, is a difficult business. Just ask the US government: from Prohibition to "Just Say No" to abstinence-only programs, its efforts to encourage the citizenry to curb their enthusiasms have been abysmal failures, if not downright laughable. Let's face it — the boomers who grew up with the "use it up" ditty haven't been models of frugal behavior.

Even so, frugality is suddenly the virtue of the moment, thanks to the Great Recession. In fact, years from now, we may actually give thanks to the Great Recession for turbocharging the engine of the sustainability movement at the precise moment when green values collided with rampant consumerism, yielding such silliness as LEED-certified McMansions and threatening to undermine the movement's urgency with rampant cynicism over green marketing. The recession has made us realize that "reuse" has little meaning unless it is considered in the context of "use," and neither has any meaning without considering the larger issue of our relationship with *stuff*.

These are among the most important cultural issues of our time, which means that those who are in creative fields have a job to do. Just as artists and designers colonize rundown urban areas and make them hip, so do they serve as tastemakers in our cultural terrain. They are the cool kids. And the cool kids, many of whom were among the first to embrace sustainability, are increasingly thinking about reuse.

Back to zombies. At this writing, *Pride and Prejudice and Zombies* ("It is a truth universally acknowledged that a zombie in possession of brains must be in want of more brains") is ranked 237 at Amazon and has been on *The New York Times*

trade paperback bestseller list for 39 weeks. It's a mash-up, reusing and combining existing material to create something new — which also happens to be wildly popular and wildly lucrative. At this writing also, Boston is abuzz over *The Donkey Show* and *Sleep No More* — the inventive productions at American Repertory Theater based on *A Midsummer Night's Dream* and *Macbeth*. They are evidence of a new openness in the creative world toward repurposing and remixing that leads to work that is transformative — a completely new genre and experience.

Today's attitudes toward reuse have shed the stern moralism of the "use it up" dogma and the groupthink numbness of the "reduce, reuse, recycle" chant. Reuse has a new edginess to it: witness the international attention to Single Speed Design's "Big Dig" house, a wonderful residence in Lexington, Massachusetts constructed of materials salvaged from Boston's Central Artery project. Even preservation architecture — long considered the stodgy corner of the profession — has a new hipness, as practitioners take on midcentury masterpieces and academics look afresh at preservation theory, with journals such as *Future Anterior* (Columbia) and *Int/AR — Interventions/Adaptive Reuse* (RISD). The field has already been re-energized by its recent alignment with sustainability ("the greenest building is the one that is already built"); new appreciation of the invention and innovation that are possible with reuse will undoubtedly push it further.

"Reuse" has little meaning unless it is considered in the context of "use," and neither has any meaning without considering the larger issue of our relationship with *stuff*.

Reuse, repurpose, reimagine, remix, mash-up, hack — a growing vocabulary describes a trend that is not just about the moral high ground. It's about the sheer pleasure and frequent beauty in creating something new. And, oh yes, doing good. ■

Elizabeth S. Padjen FAIA
Editor

Letters Letters Letters

I thoroughly enjoyed your issue on infrastructure [Winter 2009]. We have badly neglected infrastructure, and it shows. In fact, Secretary of Transportation Ray LaHood said the other day that this country looks like one giant pothole, and he is right.

What seems to have been missed, even in what was otherwise an interesting and illuminating discussion of the critical need for a national infrastructure policy, is that the president's stimulus package is precisely that. Yes, some of it involves quick job-creating projects that will avoid layoffs and get us moving on "shovel ready" projects, but in its dramatic new emphasis on high-speed intercity rail and major investments in metropolitan transit systems, it has set the stage for what many of us hope will be a long-term commitment to both.

It is positively embarrassing to visit our friends in Europe and Asia, take advantage of dozens and dozens of first-rate urban transit systems, ride modern high-speed trains at speeds that will soon exceed 200 miles per hour, and then return to the US and its crumbling highways, poor or nonexistent transit systems, and trains that are still traveling at 1920s speeds outside of the Northeast Corridor.

There is no better time than now to get cracking on the president's plan for high-speed rail and modern public transit. Contractors are bidding low, and 20 percent of the building trades are out of work. The "Steel Interstate" awaits us. It is time we built it.

Michael S. Dukakis
Brookline, Massachusetts

"A Bridge to Somewhere" [Winter 2009] is as powerful a conversation as it is rare. That's unfortunate. America's foundation is crumbling. The nation is in an unprecedented physical decline. Decades of neglect are eroding centuries of progress. Call it the Great Regression that's threatening the water we drink, the schools we send our children to, even the pursuits of our happiness. Maintenance is being put off to the point of criminality. Increasing traffic

and rising utility consumption are breaking down the nation's once-great public works.

America once set the highest standards with its longest rail lines, boldest bridges, and cleanest drinking water. Now, Asia and Europe threaten to eclipse us as they construct better educational facilities, greener power plants, and more effective public transportation networks. The US should have started rebuilding years ago. We have what it takes: wealth, natural resources, and brilliant minds with readied answers.

It's all connected. Like an unwanted chain reaction, the failure of one system causes the crash of others. When Minnesota's busiest highway bridge collapsed, it wiped out rail lines; blocked a lock for barges on the Mississippi River; made getting to the airport problematic; and fouled mass-transit routes. Incapacity on the nation's electrical grids drives upward the cost of running mass-transit systems — the biggest consumers of electrical power. The breakdown of New Orleans' levees destroyed the city's entire infrastructure: highways, locks, grid, mass-transit system.

Balance between rails and roads, coal and wind, and waste and reclamation are within our grasp. If rebuilding begins, we rise above the challenges. If not, the Great Regression continues and our futures and the environment are going to suffer.

Dan McNichol
Author, *The Big Dig and
The Roads That Built America*
Boston

While the gray infrastructure of roads, bridges, and highways is important, the role of green infrastructure is equally significant in sustaining healthy communities. If, as Elizabeth Padjen says in her letter from the editor [Winter 2009], "the essential purpose of infrastructure is to support commerce and the public welfare" and that a national infrastructure policy "would embrace sustainability," then the purpose and policy must include green infrastructure as a central component.

Green infrastructure is a smart-growth concept that balances development with conservation by connecting environmental, social, and economic health issues. Green infrastructure advances smart conservation through large-scale thinking and a holistic approach to planning. It achieves a healthy and livable balance between development and conservation, highlighting the importance of the natural environment. Its application contributes to the health of ecosystems and human beings as components of the natural world. In many instances, it is the interconnected network of open spaces and natural areas, such as greenways, wetlands, parks, woodlands, and native plants. Those features can also manage stormwater, reduce flooding, improve water quality, clean the air, and provide areas for shelter, shade, and rest. These are life-sustaining functions.

A good example of Bay State green infrastructure on a large scale is the Quabbin Reservoir complex. While many communities around the nation rely on expensive filtration systems to treat the surface sources of their drinking water, 2.5 million Greater Bostonians rely on the 80,000-acre forested landscape of the Quabbin to filter their water. This green infrastructure is far less expensive and, more importantly, safer and more effective from a public-health perspective.

Inherent in keeping a city or town livable, green infrastructure is not simply an "amenity": it is a new and necessary way of undertaking community development.

Jack Clarke
Director of Public Policy and
Government Relations
Mass Audubon
Boston

In "Transportation @ MIT" [Winter 2009], James McCown writes that design decisions are now being based on how people actually travel. As Mayor Thomas Menino advances Boston Bikes, an initiative he started in September 2007 to turn Boston into a world-class biking city,

the intersection of transportation and architecture is as apparent as ever; through quality design, we can promote green transportation.

In just two-and-a-half years since its launch, Boston Bikes has been remarkably successful. Ridership has increased by 30 percent, which is more than double the growth nationally. We became the first city in the country to replace a car parking spot with a bike rack, which can be found on Massachusetts Avenue near Newbury Street. We've added 15 miles of bike lanes by working with transportation officials, and we've collaborated with many agencies to prepare for a watershed moment in 2010, when Boston will become the first major US city to offer a large-scale public bike-share program.

By investing in all aspects of making Boston — already one of the greenest cities in the country — a leading biking city, we stand at the forefront of addressing what McCown calls "the problem of moving around."

Nicole Freedman
Director of Bicycle Programs
City of Boston

I, too, miss the elevated Artery lamented by Stephen Heuser in "Surface Road" [Winter 2009], and the fly-through of Boston it provided drivers. It still represents to me an earlier era of Boston, one of a grittier, noisier working city and harbor, one for which I hold great fondness. I disagree, though, that it held much value as a tangible piece of engineering within the city. Even through a utilitarian lens, the structure held little beauty, unlike the aqueducts and fountains of Rome and unlike other infrastructure projects of its generation. It crossed far beyond the boundary of romance that may be attributed to industrial structures, not to mention the noise levels and air quality that further diminished its attractiveness.

As the author noted, the subways below grade, though invisible, evoke excitement and attractiveness in people's imaginations, and I would argue the "Tip" (the Thomas P. O'Neill Jr. Tunnel) accomplishes the same thing in spades. Further, the demolition of the Artery superstructure has not reduced the presence of infrastructure in the city, but rather shifts the balance from

infrastructure for cars to infrastructure for pedestrians, in the form of beautiful streetscapes, parks, and views. It is not about denial of infrastructure, but rather an enhanced approach to infrastructure in the Information Age, one that places people and their environment as the priority. Just as people's joints and sinews invisibly (thankfully) propel them forward, I would posit that the best infrastructure supports elegant, convenient living while minimizing an adverse presence. The old Artery did not come close to achieving that mission.

Gretchen Von Grossmann AIA, AICP, LEED AP
Von Grossmann & Company
Boston

The Infrastructure issue [Winter 2009] is on point, but as usual, when our profession really gets going, we are capable of flying high and the details can get lost. My favorite cause for many years, rooftops, is among them. Is now the time for including this interface with the sun and rain in our infrastructure discussions?

This endless surface can collect energy (both solar and wind) and water at the point where it serves its inhabitants — an entire population. But we have to see it as an overall fabric woven of zoning, design assistance (as opposed to "review"), technology, tax incentives, stepped-up leverage with utilities, publicly financed (and encouraged) research, an adaptable industry, and architectural invention. And, appropriate use of rooftops needs to be publicly mandated or encouraged by incentive permitting.

There is nothing complicated or difficult about putting this infrastructure to work in an architecturally (no matter how one defines architecture) coherent context, other than to first get ourselves, and then everyone else, to see it as infrastructure.

Joseph Eldredge FAIA
West Tisbury, Massachusetts

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Unidentified suburban residence, 1930s, David J. Abrahams, architect. Courtesy Historic New England.

Drawing Toward Home: Designs for Domestic Architecture from Historic New England

Boston University Art Gallery

November 18, 2009–January 17, 2010

National Building Museum, Washington, DC

February 13, 2010–August 15, 2010

A good architectural drawing creates what landscape painters call a *moment*. It illustrates something that in an instant resonates within us. With paintings, it is usually about a time or place that is iconic, as if we've known the place all along or were there at some point in our lives. As the drawings in this exhibition demonstrate, a good architectural drawing has that same capacity.

Beyond whatever artful quality they have, architectural drawings also require a certain correctness or scale to be useful. Whether a plan, an elevation, or a detail, all of the drawings in this exhibition are practical representations of an idea that was meant to be built. They had to accurately portray the whole house or a portion of it to clients or contractors and, by itself, that is often enough. But what is so significant here, and what elevates these drawings beyond mere representation, is their facility to give us the same *moment*

that a good painting can give us.

Three drawings demonstrate the range of this show: one by Peabody and Stearns of a house in Newton (1875), one by Halfdon Hanson of a house in Gloucester (circa 1920), and another by Henry Hoover of a house in Lincoln (1968). Separated by only a few miles in Massachusetts but spread over almost a century in time, they couldn't be more different stylistically. Yet all the drawings seem familiar and comfortable, as if one could move right in and occupy the house. Though the drawings in this exhibition span three centuries of domestic American architecture, that sense, or *moment*, is evident in all of them.

Jeremiah Eck FAIA is a partner at Eck/MacNeely Architects in Boston, an author, a landscape painter, and former lecturer in architecture at the Harvard Graduate School of Design.

The Design Research Installation

48 Brattle Street
Cambridge, Massachusetts

It is 1969, and I am finishing a B. Arch. degree at University of California, Berkeley.

When not in the studios, the action is at Sproul Plaza: People's Park and Cody's Books are the hot spots. My architecture hero is Christopher Alexander. The fashion on the street runs to Frye boots, tie-dye dresses, and headbands. I have a draft of the *Whole Earth Catalogue*.

I come back to Boston to visit a friend. I walk into Harvard Square, and there I see Ben Thompson's glass-walled D/R building. It is sleek, transparent, and colorful. It is like a Corbu building on pilotis, but with more style.

Coming out are women in Marimekko dresses. They look as if they are wearing the architecture. They look impossibly modern. They threaten Berkeley and all it stands for, and this just will not do. In an act of supreme defiance, I take off my Frye boots and go buy some Earth Shoes.

It is 2009. I walk into Harvard Square. And there they are again: D/R, Marimekko, the colors, the people. It's a marvelous temporary installation, put together by a volunteer team led by Jane Thompson, with the blessings of Bill Poorvu, the building owner. I'm going to go get my Frye boots out of the closet.

Peter Vanderwarker is an architectural photographer in Newton, Massachusetts.

Photo by Peter Vanderwarker.
Slideshow at: www.architectureboston.com





The Universe In A Garden

Lecture by Charles Jencks

October 7, 2009

Gardens & Spirit Series

Co-sponsored by Trinity Church and the Arnold Arboretum

What is a garden? By today's standards, the notion of a garden seems naïve, vaguely old-fashioned, or at best pleasantly restorative. Landscape historian John Dixon Hunt informs us that the Roman orator Cicero described the cultural landscape of bridges, roads, harbors, and fields as "second nature," implying a first nature of landscape untouched by humans. Before moving on to gastronomy, writer Michael Pollan gave his wonderful account of fighting entropy in his own suburban Connecticut garden in *Second Nature: A Gardener's Education* (1991). Sixteenth-century Italy introduced the concept of "third nature" — art incorporated into nature. The notions of second and third nature speak to the balance struck between human order and natural chaos, and the definition of that balance becomes the personal expression of the gardener.

On October 7, architectural historian, writer, and designer Charles Jencks presented his private landscape, the Garden of Cosmic Speculation. Located at Portrack House near Dumfries in southwest Scotland, the garden began as a creative joint venture with his late wife, Maggie Keswick, on her family estate. Images of the steeply sloped, grass-covered landforms sinuously enclosing lobe-shaped pools of water have become the widely recognized images of the garden, reproduced in coffee-table books of "radical" landscapes since its construction in 1989. To this first project, Jencks has continued to add new vignettes of garden spaces, so now the visitor experiences an episodic journey of garden rooms — based on themes of modern physics, mathematics, and science —

rather than a broad, continuous landscape.

Prior to Portrack's relatively recent step onto the world stage, the most celebrated Scottish garden was Little Sparta, the garden of the late Ian Hamilton Finlay, Jencks' "neighbor" 70 kilometers to the north. Referring to Little Sparta, Finlay quipped, "Some gardens are described as retreats, when they are really attacks." These two private gardens, carved out of the Scottish landscape, offer much to consider about the nature of gardens — their meaning and manufacture, as well as their authors.

Taking Finlay's definition of the garden as either retreat or attack, it is interesting that for the agoraphobic Finlay the garden was an attack, filled with metaphorical sculpture and pointed, iconographic references to politics, philosophy, anarchy, and landscape history. For Jencks — who found fame through his prolific writing and lecturing on postmodernism in the late 1970s and 1980s — the garden is a retreat from the world stage and perhaps from personal loss. While Finlay's garden alludes to the past, Jencks' engages current and future relationships between humanity and nature as expressed in quantum physics, chaos theory, ideas of "strange attractors," Solitan waves, and the Anthropic Principle of the universe's genesis.

Like any creative endeavor, these works must be evaluated on their own terms, as landscapes outside of the meanings proposed by their authors. The rural Little Sparta, created within the context of the barren moors south of Edinburgh, is more successful, as it truly engages the full medium of landscape — topography, vegetation, climate, light, and place. Finlay's sculpture, *Nuclear Sail*, a replica of a nuclear submarine's conning tower, plies the "sea" of the grass-covered moor, and achieves a sense of the sublime in both the raw emotional power and scale of the moor, as well as the insidious threat of nuclear annihilation. In other places, tree trunks stand as columns with stone


entablatures at their feet, commemorating a pantheon of philosophers. Other inscribed stone blocks stand in for grazing sheep in the pastoral fields of the farmhouse, a 20th-century interpretation of the English landscape garden.

Similar to Little Sparta, Portrack's garden spaces and elements are an eclectic assembly of objects and ideas, but here are superficial referents to complex scientific theory, breaking from English garden traditions both in content and how they engage landscape as a medium for design. In several places, complex theories are simplistically applied as pattern, as in the case of the Black Hole or Fractal Terraces, or oddly freestanding as sculptural objects, as in the DNA Garden or in the wire tracing of subatomic particle explosion that fords a stream. While well crafted by local tradesmen and gardeners, the primary space is largely derivative of current landscape celebrities Kathryn Gustafson or George Hargreaves in the use of sinuous and geometric landform. The smaller gardens play a diminished, secondary role: they exist only as backdrops for the display of pseudo-scientific objects.

The garden is at its best where it is most allied to the landscape elements of earthwork, water, and woodland enclosure, in the landform garden. As it delves further into scientific symbolism and allegory, both the forms and the references become more simplistic and less successful. Pollan closes his essay on gardening saying, "Nature does tend toward entropy and dissolution, yes, yes, but I can't help thinking she contains some countervailing tendency, too, some bent toward forms of ever-increasing complexity. Toward us and our creations, I mean. Toward me and this mower and the otherwise inexplicable beauty of a path in a garden." In regard to the Garden of Cosmic Speculation as a work of landscape, this critic is left wanting more of the real entropy of the garden, and less of the theoretical.

Mark Klopfer ASLA is an architect and landscape architect and is a principal of Klopfer Martin Design Group in Cambridge, Massachusetts and an associate professor of architecture at Wentworth Institute of Technology

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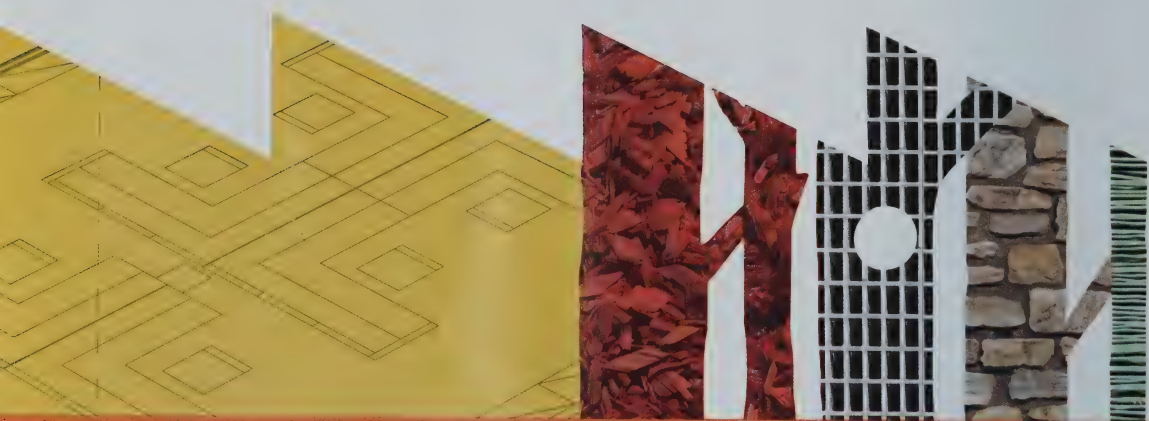
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Old House, New Episode

The event: Filming an episode of *This Old House*, the Emmy-winning PBS show, now in its 30th season.

The project: A budget-sensitive set of improvements to a 1915 Dutch Colonial in Newton Centre, Massachusetts. The owners are Gillian Pierce, an assistant professor of rhetoric at Boston University, and her husband, fiction writer and novelist Bill Pierce, who is also senior editor of *AGNI* magazine.

Today's plan: To film the laying of a new patio in the back yard. The patio is made of wood flooring in the new upstairs study and living room.

8:00 Bill and Gillian and their son Liam eat pancakes in the dining room, an oasis in the midst of renovation-gutted limbo. Bill's parents have come from Pennsylvania to help with the patio in today's episode.

8:10 Liam leaves for school. "You're going to have a patio when you come home, buddy," his grandfather says, "and you don't even need to do any work."

8:27 Outside, the landscaping crew lines up six-foot granite slabs to edge the patio. Producer Deborah Hood talks to director David Vos and cameraman Dino D'Onofrio about keeping the painters, on ladders painting second-floor window trim, out of the patio shot. "For continuity. Because painting was Show 11 and this is Show 12."

8:45 A truck shows up to deliver poplar for door casings. Two men get out and begin unloading—but the crew is ready to film the opening shot in the driveway. "So the truck's got to get out of here," Deborah says.

8:50 The truck is gone. David has been planning the shot with program host Kevin O'Connor and production coordinator Heath Racela. "OK, so Kevin, run up Pork Chop Hill; Dino, pan the hole; and Heath,

it looks like a bus stop with everybody just hanging around—give 'em all something to do. OK—" he cues Kevin—"Here at this Old House!"

Kevin continues, running up the hill, "—we are down to the last six weeks of the renovation of our little Dutch Colonial!"

Meanwhile, David watches Dino's camerawork on a monitor, muttering, "Shot of the gambrel."

8:52 David to Kevin: "Go again." And, to Dino, "It's all about the gable."

8:53 Dino pans down the gambrel roof and over to a large hole at the head of the driveway. Kevin: "We'd pulled up the blacktop, but then the homeowners threw us a curveball. They didn't know if there was money for a new garage, but then decided there was, so last week we tore down the old one—"

(David muttering to Dino, "Get the hole, the hole, it's all about the hole.")

"—and we want to deal with that without disrupting the work that's already been done to prepare for the patio."

9:08 David and landscape contractor Roger Cook run through the next shot with Kevin. David: "Say that we wanted to grade



▲ Photo by Joan Wickersham.

away from the house, for drainage; but the land slopes up, so we graded sideways. And we're using these concrete pavers that look like brick, but they're cheaper, more uniform, easier to install. And they've got these chamfered edges—why?"

"No trip factor," Roger explains. "And the snow shovel rides right over."

"Right. And make the point that they're modular, easy to work with, and they come in a blend of colors, so they look natural."

Meanwhile another member of the crew sweeps the new mahogany back stoop, cleaning it up for the shot.

9:26 "Action, please."

Kevin kneels at the back step. Dino, backing with the camera but mindful of the steep drop just behind him, says, "I can't get world enough—I mean, wide enough to—"

"Isn't that 'To his Coy Mistress'?" David asks Bill, who is standing nearby.

"Had we but world enough, and time," Bill quotes.

David smiles. "Yep, that's the general production lament."

9:28 Between takes, noise of men sawing boards to frame the new garage foundation.

10:06 Roger, Kevin, and Bill rehearse measuring the depth of a screed rail in the bed of sand that will underlie the patio; it

must be precisely 2" below grade. "Kevin, give me a scoop of sand," Roger says. Kevin mimes the action but won't actually pour the sand until they're shooting.

10:25 Screed rails laid, the crew begins dumping wheelbarrows full of sand, which Bill rakes smooth. Dino moves sideways, changing his vantage point; onlookers scramble to get out of the shot. David murmurs to Dino, "Detail, man, detail." Then: "Stop. Whose phone is that?" No one confesses.

10:31 They start filming and the phone rings again. It belongs to one of the painters. David goes over to the ladder. "Can you stop that, please?"

10:50 David: "OK, now Roger, you want to talk about how it's important not to have voids. If you have voids you'll have dips — no, don't say 'dips', say 'settling' — and then your property values will go to hell."

Roger rehearses in his animated on-camera voice, "Now the reason I'm so picky about these little voids is..."

10:52 Filming again. In *his* on-camera voice, Bill asks Roger, "What about voids?" David interrupts. "No, Bill, don't lead the witness."

11:01 David: "OK, now let's get the whole chorus together."

A procession forms: Bill, Bill's parents, a family friend, all carrying pavers.

David: "Oh, that was sad. That was like a dirge. An open-casket patio laying. Roger, talk about grabbing different colors to mix up the shades. And Bill, talk about who you've indentured here to help you."

11:04 As filming continues on the patio, work is happening off-camera: guys working on garage foundation footings, guys sawing trim, guys painting.

11:15 David talks to Dino and Roger about a close-up. "The anatomy of a paver. I want to learn about chamfering."

11:20 David: "Take it again. Roger, you said 'uniform spaces between the patio,' when you meant 'uniform spaces between pavers.'"

11:22 David: "Now we're going to talk about laying the pavers. And let's have a student do this, not a master." He nods at Bill's mother, Peggy, who steps into the shot and crouches, holding a paver.

11:23 On camera, Roger says it's important to drop each paver in from above, rather than dragging it through the sand. Peggy drops in a paver.


"Stop," David says. "Let's start with Peggy dropping it in — work first, then talk."

11:58 Filming of a teaser, to be used in the middle of the episode. Roger: "And later on, we're going to be laying a new patio in the backyard."

David: "Smile even more, Roger."

12:06 David, Roger, Dino, and the Pierces' friend Neil plan out a sequence of cutting some pavers in half, using a guillotine splitter, to fill in the periodic gaps in the herringbone paving pattern.


With the camera rolling, Roger and Neil crouch by the guillotine. "Neil, I need you to do something for me. We're going to cut



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some pavers in half—”

David: “Stop. You’re repeating yourself—you’ve already said we’re going to cut them in half.”

Roger resumes. “What I need you to do for me, Neil, is split some pavers. The pavers measure eight inches, so we’re going to mark them here at four inches.”

12:12 The pavers are split, the guillotine scene is shot. David: “Now let’s satisfy ourselves. Let’s plunk ‘em in.”

12:13 Roger, Neil, and the Pierces practice plunking the half-pavers in, but then have to pry them out again for filming.

12:30 In the driveway, a production assistant talks with master carpenter Norm Abram, who will appear in the afternoon’s indoor flooring sequence. They discuss possible stain colors for the front door of this season’s other *This Old House* project, a house in Roxbury.

Bill’s parents, who are big fans of Norm’s (Bill Senior is an avid do-it-yourselfer) come over to introduce

themselves and have a photo taken.

1:20 After lunch, the rest of the pavers are laid.

Roger, on camera: “So what do you think, Bill?”

Bill: “I think it’s time for a chair and a beer.”

1:30 David, to Kevin: “OK, now you’re going to come in and say—”

“Wow. Look at that. You guys sure made short work of that.”

“Exactly.”

1:50 The landscaping crew dumps bags of polymeric sand on the patio surface, while Roger explains to David what the sand is for: it will keep the pavers from shifting, and keep down weeds.

1:58 On camera, Roger explains that the polymers will harden when wet, binding the pavers together.

2:06 Gillian stands ready to operate the power compactor, which will firmly

pack the sand between the pavers.

Roger, on camera: “Now what we’re going to do, using this power compactor—”

David: “No—talk about what we’re going to do first, then about what we’re going to use to do it.”

2:25 Roger blows away excess sand with an air gun. The next step is to wet it. Roger: “We don’t have a nozzle for the hose?”

Another landscaper answers, “Nope, we’re going to do the homeowner thumb-spray.”

2:40 The Pierces stand with Kevin and Roger on the wet patio, hosing, smiling, and filming the episode sign-off. Roger: “That’s it, Bill, I just want you to dampen that polymeric sand...”

2:41 They do several more takes, hosing, smiling, signing off. David asks them to try it one more time. “Those are the parts, guys. Now do it like you love it.” ■

Joan Wickersham’s website is
www.joanwickersham.com

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Recycling

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Who can argue with recycling? It's sustainable, noble even. Yet, for most of us, the act of recycling is exactly like the act of disposing — except the bin colors are different. “The recycling” has come to mean a class of privileged rubbish, and recycling itself has come to represent only half of an idea: diverting trash from landfills.

But a deeper understanding of sustainability — and a corresponding shift in our values — is now bringing attention to the other half of the idea: reuse. The design community — architects, industrial designers, fashion designers, landscape architects — has embraced the concept as a catalyst for creativity.

The following six essays are reports from the design world illustrating small examples of this very big idea. They demonstrate that new attitudes about reuse influence not only what we recycle but how. Together, they suggest that we may be entering a new era of creative transformation. ►►

— Elizabeth S. Padjen FAIA

Fashion ▶ The re-working of old clothes is hardly a new concept. Museum collections are full of 19th-century dresses that have been reconstructed multiple times to update them according to the latest fashion. Today, with the wealth of consumer goods at our fingertips and cutting-edge designers such as Thakoon at Target, we no longer have to worry about recycling our best garment. Indeed, the notion of “sustainable” seems out of place in a fashion system that is based on planned obsolescence, yet the trend for “new” garments using old materials continues to gain currency. *Vogue* now has a green issue and the Spring/Summer 2010 New York Fashion Week witnessed concurrent “Green Shows” for the first time, featuring eco-conscious designers.

Highlights from the Green Shows included the work of Susan Cianciolo, a New York City-based multimedia artist and designer who has been at the forefront of the re-purposed clothing movement since the mid-1990s. Cianciolo’s first collection in 1995 used recycled clothing and discarded scraps of fabric from

the Chinatown factories, remade into edgy pieces with a deconstructed aesthetic. Cianciolo’s signature frayed hems and evident seaming reflect a deep-rooted commitment to the handmade, as do her do-it-yourself clothing kits. Since the conscious radicalism of her first RUN collection, Cianciolo has remained true to her mission. She still pulls clothing from her grandmother’s closet to screenprint and re-construct, breathing new life into a garment imbued with memories.

The design firm Alabama Chanin also links the present to the past, not only in the use of reclaimed textiles, but also in the reinvigoration of the Southern tradition of quilting. Historically, American quilters used every scrap of fabric they could find, from flour sacks to the unraveled threads from red tobacco pouches. Founder Natalie Chanin continues in this vein, resurrecting the ubiquitous 20th-century garment — the cotton T-shirt — and turning it into fancifully embroidered and appliquéd skirts, dresses, and tops. Although the South’s once-vibrant cotton industry has long passed, the company also now sources cotton yardage that is “grown to sewn in the United States.”

Chanin is one of a number of contemporary designers who have published do-it-yourself books, testimony to the active and growing DIY movement. While some craftspeople feel that websites such as Etsy.com are a threat to the livelihood of academically trained designers, there are many who have embraced it, including the London-based design firm Junky Styling. Founded in 1997 by Annika Sanders and Kerry Seager, the designers transform vintage clothes into dramatic silhouettes. Junky Styling cunningly retains many of the details of the original garment — the closures, the cuffs, the collars — to create fashions that have a streetwise edge to them. With a nod to their English heritage, one can see connections to the doyenne of alternative design, Vivienne Westwood, as well as the punk look of the late 1970s, an earlier incarnation of the DIY aesthetic.

Junky Styling’s obvious use of vintage clothing differs from the design sensibility of Toronto-based Preloved, which finds inspiration in the garment’s textile. Founder Julia Greive started the business as a vintage clothing shop but changed her focus when head designer Peter Friesen came on board. Friesen skillfully deconstructs the original garment and completely transforms it, using sophisticated construction and inventive seaming. Each piece is comprised of two to five used garments that have been purchased in bulk from rag houses. Like Alabama Chanin, the design firm is eco-friendly to the core, hiring only local cutters and sewers. Preloved also exemplifies the future of remade fashion: an affordable, ready-to-wear line offering the customer a one-of-a-kind garment. It’s a prospect undreamed of without the imaginative reuse of old clothes. ▶

Michelle Finamore is a fashion and design historian at the Museum of Fine Arts in Boston.

“Lapel dress” by Junky Styling features recycled men’s suit jackets. Photo by Cory Doctorow.





The Portola Valley (California) Town Center, by Siegel & Strain Architects with Goring & Straja Architects. Materials from previously deconstructed buildings on the site were reworked and integrated in the new buildings. Photo by César Rubio.

Architecture ▶ Despite strong demand for sustainable products and materials in the United States, the amount of waste produced by the building industry remains staggering. Approximately 100 million tons per year — almost 40 percent of the entire municipal solid-waste stream — come from construction and demolition. While most of this waste could be recovered, material reuse remains limited, particularly at the commercial scale. In fact, LEED credits for material reuse are among the least sought after, with only 5 to 9 percent of all LEED-certified projects having successfully received those credits.

A new tool may help to change that. The *Design for Reuse Primer* seeks to more clearly understand the obstacles impeding reuse and provide the design and construction industry with knowledge and tools that can help alleviate the barriers. Scheduled for release in mid-2010 as a Web-based resource, the *Primer* also aims to bridge the communication and knowledge gaps among the various players involved in the reuse process. Thus it is targeted to a broad audience, including designers, contractors, clients, and municipalities. The primary feature of the *Primer* will be a series of case studies that serve as guides to the reuse process. They will not only showcase the possibilities for reuse but also serve as models that readers can adapt to their own projects.

The *Primer* was developed by the San Francisco nonprofit Public Architecture, working with deconstruction and material reuse expert Brad Guy and various government agencies, and

supported by a grant from the US Green Building Council. The research team has identified a diverse range of projects varying in size, location, type, budget, scope, and design intent for inclusion as case studies.

In addition to the case studies, the project website will provide a directory of resources connecting people to additional tools that can facilitate material reuse. The website is meant to be interactive, allowing users to contribute knowledge and engage in dialogue and allowing the project to continue to grow as a productive resource.

Building codes, perceived environmental health and safety concerns, scheduling and storage constraints, the inertia of familiar methodologies — there are many challenges limiting the role of reuse in the design and construction industries. Yet increasing rates of material reuse can have profound positive environmental implications, affecting everything from energy consumption to landfill waste. The *Design for Reuse Primer* aims to stimulate the development of new systems and infrastructure to make reuse a more common component of a sustainable building strategy. ▶

Brad Leibin is a project associate at Public Architecture in San Francisco. To learn more about the *Primer* and be notified of its release, visit www.publicarchitecture.org and subscribe to the newsletter.

Materials

► For as long as people have built, we have un-built, too. A thousand years ago, Europeans removed the physical traces of departed conquerors by repurposing Roman bricks for new construction. Viking shipbuilders reused choice timber in new vessels. The United States, colonized to supply its bounty of raw materials to Western Europe, has less experience with the concept of reuse. My father tells of moving to an old farmhouse in northern Vermont in the 1950s and finding in the barn a ball of string measuring three feet in diameter. And next to it, a shoebox that was filled with bits of string and labeled "String Too Short To Save."

Today, the practice of reusing building materials is flourishing in a renaissance driven by environmental considerations as powerful as the economic motivations of the past. For Boston Building Resources (the new name, effective this spring, for the Building Materials Resource Center and the Boston Building Materials Co-op) and its Reuse Center, the financial advantages historically associated with salvage are on an equal footing with landfill diversion and embodied energy reduction. Aiming to make a positive community impact through the supply of economically accessible building materials, the Reuse Center offers a membership discount program for individuals with low to moderate incomes and for nonprofit organizations.

It was the oil crisis of the '70s that compelled architect John Rowse to start sharing his expertise in building science and construction methods with his neighbors. In 1978, he founded the Boston Building Materials Co-op to provide homeowners with both an affordable source of insulation and training in weatherization techniques. Despite the subsequent drop in oil prices and dissipation of environmental awareness, the cooperative continued to thrive. Workshop space was added to enable members to make

window repairs without investing in expensive tools, and in 1993 the Reuse Center was launched in two tractor-trailer containers on the site.

Word spread among local contractors and the trailers quickly filled with doors, windows, fixtures, and other materials diverted from landfills. Showrooms contributed new products such as lighting fixtures that were slow to sell. The less-than-ideal conditions of uninsulated trailers in blazing heat did not deter homeowners from doggedly sifting through the growing collection.

Recognizing the growing popularity of building material reuse, the staff eventually replaced their six trailers with the warehouse building that houses the Reuse Center today. In 2008, approximately 800 doors, 400 windows, and 50 kitchen-cabinet sets found new homes via the clean and orderly aisles of the Reuse Center. Boston Building Resources also sold more than 500 composters produced by the Massachusetts EPA and 250 rain barrels constructed of 55-gallon plastic containers that had been previously used for food storage. The unquestionable success of the organization demonstrates a demand for secondhand materials in good condition — and proof that more designers, contractors, and clients are following the advice of director Matthew St. Onge: "Think reuse before new."

For more information, including donation guidelines, visit: www.bostonbuildingresources.org. For a directory of North American reuse centers, salvage yards, and deconstruction specialists, visit: www.bmra.org. ►

Amelia Thrall, ASSOC. AIA, LEED AP is a designer and educator living in Cambridge, Massachusetts.





Furniture ▶ It may take a sociologist, or perhaps a psychologist, to one day explain the cultural puzzlement that is best described as the Modern Revival. Other architectural revivals have allowed a decent interval of at least a century to pass before dusting off pre-used forms and devices. But the current fascination with all things midcentury has barely skipped a generation. It's the design equivalent of boomers and their kids all knowing the words to "Satisfaction."

This fascination is especially evident in the growing interest in midcentury furniture. Although many of these designs have been in continual production, *Dwell* magazine (founded in 2000) and the national retailer Design Within Reach (founded in 1999) introduced names such as Breuer, Nelson, and Eames to a new, younger audience, while simultaneously demonstrating how their furniture could fit a 21st-century lifestyle.

They have also given momentum to what might sound like an oxymoron: vintage Modern. Jane Prentiss of Skinner, the venerable Boston auction house, first noticed the trend around 1990, when many of her clients — boomer professionals who were collecting fine arts and antiques — began to buy the original midcentury furniture they remembered from their childhoods for their own teenage and 20-something children. "Because they themselves enjoyed collecting," she remembers, "they wanted to find something that their children would like, as a way of connecting with them." Prentiss established Skinner's 20th Century Design department at that time, which now runs at least two auctions a year (the next is March 27).

Retailer Normand Mainville noticed the interest, too, opening Machine Age in Boston's Fort Point Channel area in 1991 to sell vintage Modern furniture; a large part of his business then was providing period props for the movie industry. Today, many of his customers are "visual people" — artists, architects, photographers; some are serious collectors, while others are young people just starting out. And competition has blossomed, both locally and nationally (not to mention regular listings on Craigslist).

So why the interest in used furniture? Why would someone buy an old Eames chair when they could buy a nice fresh new one? "Presence," Mainville answers. His customers appreciate the authenticity and history of the furniture, as well as the sense that these pieces are often unique and more personal.

Cost can be a factor, too. While rare or unusual pieces can command impressive prices (such as the 1973 George Nakashima table that Prentiss recently sold for \$213,000), some are less expensive than their new counterparts, and frequently less expensive than the goods sold by mass-market furniture retailers.

Prentiss casts the trend against a larger social context. Much of the furniture fits today's informal lifestyles; young people especially embrace it as "theirs." Buyers of all ages are attracted to the quality and craftsmanship, as well as the rarity of some materials such as woods that are no longer available. And, she notes, buying previously owned furniture is inherently sustainable.

As concerns about sustainability permeate our culture and influence our values, it's hard not to wonder if vintage Modern furniture will serve as gateway antiques, introducing a new generation to a marketplace that currently bemoans the graying of its customer base. Prentiss notes that her department has brought new buyers to Skinner, who often branch out to other interests, most notably Native American and ethnographic objects, vintage jewelry, and American folk art.

Can New England antique furniture be far behind? Designed and handcrafted by local makers using local materials without oil-based synthetics or noxious off-gassing, recycled across generations, and often available at prices far less than any new furniture, these pieces embody the very essence of sustainable values. Buying a New Hampshire Chippendale tiger-maple desk might soon seem like a very modern idea. ▶

Elizabeth S. Padjen FAIA is the editor of *ArchitectureBoston*.

Manufacturing ▶ In *Cradle to Cradle*:

Remaking the Way We Make Things, architect William McDonough and chemist Michael Braungart popularized the concept of managed product lifecycles, changing how we think about the things we buy. *Cradle to Cradle* proposes a future where commerce achieves both economic prosperity and environmental responsibility by closing material loops. So-called "service systems" supply consumers with televisions, computers, and home appliances — by leasing in lieu of selling — and shift the burdens of maintenance and disposal back to the service provider. Goods that might otherwise be discarded are instead "remanufactured" — refurbished, reused, or recycled into new products. While conceptually appealing, in practice these systems sometimes struggle to find their feet.

Service systems are common in business-to-business (B2B) transactions where tax deductions on rental fees are often more appealing than acquiring depreciating assets like copiers and printers. Similar systems have struggled in household markets, where end-users value the concept of ownership and aren't afforded the same tax advantages. Electrolux tried renting washing machines to homeowners in Sweden, charging on a per-wash-cycle basis; the units were reclaimed, refurbished, and resold at the end of the trial. It failed, as household consumers could buy comparable products at similar cost through various credit plans, allowing them to keep the product after the payments ended.

The "car sharing" company, Zipcar, has shown, however, that it is possible to reverse consumer sentiment. It capitalizes on the hassle and expense of owning a car in the city, turning non-ownership into a desirable lifestyle choice, making it hip to Zip.

In Japan, where consumers pay high fees to dispose of appliances, manufacturers developed cooperative reclamation and recycling infrastructures in response to tightening legislation. Matsushita's Eco Technology Centre went beyond recycling, by using the disassembly process as a diagnostic for new products. It assesses the ease of disassembly and recycling, and reports suggestions back to designers, so new units are easier to process.

Caterpillar and Xerox have led industry efforts to "design for loops." Caterpillar's highly profitable Remanufacturing Division inspects, cleans, rebuilds, repairs, recycles, and resells end-of-life machinery parts. To reclaim profitable volumes of material, it charges customers a deposit that as much as doubles the price of the part. The financial incentive of returning the product creates a reclamation rate of 93 percent, supporting the division's \$1 billion annual revenue.

Xerox has also been very successful in remanufacturing, claiming certain photocopiers have seven lives, with six diversions from landfill. Its B2B rental of reprographic equipment creates a controlled distribution of products, where Xerox can easily take back a unit at the end of its service contract. The company's innovation is to design products specifically for disassembly and reuse of parts. Caterpillar and Xerox have both sought external expertise in remanufacturing, but found limited supporting research in business and design schools.

Despite some successes, the state of the service-system approach to commerce shows that, while altruistic and environmental motivations have created some convincing marketing stories, good intentions haven't had enough leverage to warp the prevailing cradle-to-grave business paradigms into closed loops. The success of existing models has hinged on financial incentives, legal penalties, and the coincidental, idyllic conditions of niche markets to trigger innovative approaches to design and business. Perhaps both industry and government will take lessons from current leaders and propel mainstream business up the learning curve of a new economy. Until then, *Cradle to Cradle*'s concept of a self-sustaining industrial cycle will remain in its infancy. ▶▶

Lisa Ann Pasquale is an environmental designer in London, where she works as a post-occupancy researcher for Oxford Brookes University and as sustainable design development manager for Architype Ltd. Her website is: www.bouncingarchy.com.





Bette Midler with the rapper 50 Cent. Prompted by a cleanup effort in her own neighborhood, Midler founded the New York Restoration Project to redevelop "under-resourced" parks and community gardens in New York City. Last year, rapper 50 Cent funded NYRP's renovation of a community garden in his childhood neighborhood in Queens. Photo by Johnny Nunez/WireImage.

Neighborhoods ▶ What do 50 Cent,

Bette Midler, Michael Pollan, and Mel King have in common?

A documented love for the transformative power of gardens.

Gardens offer one of the most elemental forms of reuse. Dead leaves and discarded coffee grounds become compost that help wrinkled, dry seeds sprout to shiny green life. Community gardens also recharge neighborhoods, transforming vacant lots and neglected parcels into well-tended places. The City of Boston has 150 community gardens, nearly all of them on properties that were once abandoned.

The practice of reusing vacant urban land for gardens began in the United States during the economic depression of 1893. The mayor of Detroit — a city particularly hard hit by the downfall of the railroad industry — asked owners of vacant land at the city's periphery to allow the unemployed to grow potatoes. Other cities, including Boston, soon created similar "allotment" gardens of their own. As Sam Bass Warner outlines in *To Dwell Is To Garden*, the presence of urban gardens ebbed and flowed from allotment gardens to schoolyard gardens to the "victory" gardens of WWI and WWII, and all were top-down, government-sponsored forms of philanthropy.

Today's bottom-up, community-based approach began in the 1970s, "the child of new politics and abandoned city land," in Warner's words. The new politics grew from Civil Rights-era neighborhood activism, further fueled by the first Earth Day and then an energy crisis. The vacant land was a byproduct of the midcentury suburban exodus; even Boston's population shrank by 20 percent in two decades, leaving behind hundreds of empty properties. In 1974, as a state representative, Boston activist Mel King sponsored legislation to allow gardeners to use vacant public land at no cost; in 1976, Mayor Kevin White channeled federal community-development block grant dollars into the creation of

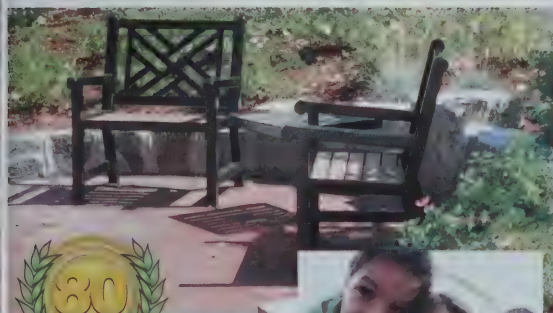
20 gardens. Unimpressed by government management and wanting to be part of the planning process, a handful of individuals from different neighborhoods founded Boston Urban Gardeners (now the Boston Natural Areas Network) — a citizen-based advocacy coalition. Neighborhoods established gardens at an extraordinary rate: by 1982, there were 120 in Boston. In the midst of profound racial tensions and the busing crisis, boarded-up buildings and urban renewal, community gardens offered a place for people of any age or ethnicity to declare a hopeful attitude toward their city through the most humble of means, while providing affordable food and flowers in return. They still do.

What's new now? Waiting lists to join Boston gardens have tripled in the past few years. There's a hipness to 21st-century urban gardening. The graying '70s activists, recent immigrants, and well-intentioned college students have been joined by locavores and Michael Pollan devotees, Martha Stewart/Patti Moreno do-it-yourself types, and Alice Waters wannabes. In the Great Recession of our day, those seeking cheaper alternatives to grocery-store produce have again taken up neighborhood gardening, as have (apparently) multi-millionaire rappers. In 2010, the community garden is once more a source of neighborhood renewal and a dynamic example of true common ground.

What else is different now? Green thumb or not, popular attitudes toward city living have changed. In part due to efforts like community gardens, urban neighborhoods are again a destination. ■

Gretchen Schneider AIA, LEED AP gardens in the new Bremen Street Community Garden (formerly a Logan airport park-and-ride lot), and is working with the teen Environmental Chelsea Creek Crew on a permanent public art installation for "Our Garden" in East Boston.

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▲ The former Villa Italia mall in Lakewood, Colorado (recently redeveloped as Belmar, a mixed-use district). Photo courtesy Continuum Partners.

by George Thrush FAIA

When F. Scott Fitzgerald famously declared that “there are no second acts in American life,” it may still have been largely true—at least with regard to the built environment. The remark is attributed to notes Fitzgerald made while working on his unfinished novel, *The Last Tycoon*, in the 1930s. And at that time, the United States was still plowing westward. There was enough frontier spirit left to keep Americans from dwelling too much on the past, when there was still so much of the country left to be settled.

After the long deprivations of World War II, and with so many people coming home and into the housing market, Americans wanted new and more expansive living situations. An explosion of suburban development began to satisfy this desire for modern, clean, new housing. It wasn't a time for reusing the old.

But attitudes about reuse have changed. There is still a lot of land, but we have settled a great deal more of it. And the sense of endless abundance that once animated this country has surely come to an end. A recent article by John B. Judis in *The New Republic*, referring to the deluge of economic, political, and environmental difficulties facing our most populous state, asks “Is California Finished?” There may be no question which points more succinctly to the changes since Fitzgerald's time than that one. The role that California has played in the American imagination cannot be overstated. If we no longer see a mythical California—a place where we can all reinvent ourselves—at the end of the highway, then perhaps we have to start thinking more about how to improve where we are.

So Americans have begun to think about fixing what we have. For 50 years at least, we have been coming to the

designing what comes next

Suddenly everyone wants to recycle the mall (even if no one wants to preserve it).

realization that there is much of value in our existing built world, even if it isn't perfectly aligned with current needs. We are learning to salvage, restore, and reinvent our buildings, neighborhoods, and historic sites.

But the scale of our reuse is changing. We no longer seek to salvage only unique historic buildings and neighborhoods, but also to retrofit suburban landscapes, malls, industrial sites, and other less obvious choices. There are new kinds of engines driving these decisions. What were once questions of cultural patrimony, as in the failed attempt to save the old Penn Station in New York, are now about environmental and economic issues.

A flurry of books in recent years has helped to shape, clarify, and occasionally question this changing attitude about reuse. Anthony Flint's *This Land* and Robert Bruegmann's *Sprawl* each had different takes on the consequences of our ever-broadening metropolitan areas. *Sustainable Urbanism* (Douglas Farr) and *Suburban Transformations* (Paul Lukez) addressed in greater, and more actionable, detail, how we might alter our existing suburban building stock and settlement patterns. Farr's book links policy and case studies, while Lukez's provides a collection of formal operations on specific buildings and community types.

Addressing one part of this phenomenon is a recent book, *Retrofitting Suburbia*, by Ellen Dunham-Jones and June Williamson. It is a comprehensive effort at defining the problems facing our suburban landscape, and proposing specific strategies for solving them.

Dunham-Jones is a longtime member of the faculty at the College of Architecture at Georgia Tech, and Williamson is on the faculty at the School of Architecture at the City College of New York. They owe some of the clarity and straightforwardness of their approach to the Congress for the New Urbanism (CNU), which has been encouraging architects, planners, developers, and public officials to work together to change the way American cities and suburbs are built for more than 20 years.

CNU has represented the single most comprehensive critical approach to influencing the character of our built environment

of any architectural movement since World War II. By bringing together so many different participants in the development world, it has created a complete system for making suburbs more compact and urban — regardless of what one thinks of the results.

But what makes *Retrofitting Suburbia* particularly important is that it addresses the issues with which the New Urbanists have been least successful. Most New Urbanist projects have been either all-new suburban developments on so-called greenfield (completely undeveloped) sites or overly simple (and not very responsive) insertions into existing cities. But as Dunham-Jones and Williamson point out, the biggest challenge we face is how to make our existing suburbs more connected, dense, and heterogeneous. And that requires specific tactics.

In addressing this large task, the authors begin by defining urban versus suburban conditions. They also make clear why adapting these existing communities is so important. But this book is entirely about how to change them, not whether we ought to. And this allows it to become a very useful manual of techniques.

Retrofitting Suburbia addresses fine-grain issues like adding detached accessory dwelling units (DADU) on the one hand, and thinking about how we change scale across an entire metropolitan area, on the other. The authors make use of the CNU "transect," a diagrammatic section cut through a hypothetical city from the dense downtown to mid-rise multifamily neighborhoods, bedroom communities, suburban centers, and on to agricultural land. They take on the myriad challenges to altering the entrenched patterns and habits that shape our world and turn their attention to everything from the large retail giants, to transit-oriented development, new live/work prototypes, and, especially, retrofitting shopping malls as denser, mixed-use developments and "new downtowns."

It's true that many of the best-case examples shown in the 16-page color portfolio at the book's center include some of the faux-historical, cartoonishly-detailed stucco buildings that have come to stand as the reason so many architects are wary of New Urbanism. But the truth is that these critics must learn to distinguish between the scales of planning, urban design, and architecture. If we learn nothing more than that from this serious, detailed study of how to reuse our suburbs, it will be

a great leap forward. It is the changing of long-fixed patterns of planning and development that is the real change proposed in *Retrofitting Suburbia*, and not really a question of building taste, which will inevitably evolve.

Another recent entry in the genre of reuse publishing is Julia Christensen's *Big Box Reuse*. Here the focus is on the now vast expanse of giant retail box stores spread across suburban and rural America. Though many of these structures are still in use, many of these very large, low buildings have already outlived their original economic usefulness, and Christensen is looking at the ways in which they have been re-purposed.

But it is a very different kind of approach. Instead of looking at functioning malls as engines for new kinds of market-driven development, Christensen is more interested in the sociology, or even the relative authenticity, of the new uses. *Big Box Reuse* documents how big-box stores have been razed to accommodate a new courthouse, reused as an indoor raceway, adapted as schools, chapels, libraries, flea markets, and even a Museum of Spam.

The implication in this selection is that these new uses are more organic and more locally relevant. That may be. Certainly there is value in large buildings with plenty of parking in our car-dominated suburbs and rural areas. And there are needs in our less affluent rural communities that can be met in these older big-box stores. But the fit is often less than ideal from an architectural standpoint, and the uses that end up in these big

boxes are ones that often would do much better somewhere else.

Using a big-box store as a library (with significant natural light demands) or a church or a day-care center makes obvious economic sense. We are reusing an asset — and that is better than not doing so — but some of these uses make much more sense than others. One senses the author is making a kind of architectural fetish out of this kind of building.

Big-box stores have a very finite economic and functional life. They are not built for the ages, and while it may make sense to temporarily reuse some of them — and some of these reinventions can be very clever (the indoor race track, for example, makes a lot of sense because there are few other building footprints that could accommodate such a use). It doesn't seem like a rational plan for dealing with our suburban and rural landscapes moving forward.

Perhaps while we learn to adaptively reuse large swaths of our built environment, improving quality and efficiency along the way, it may also make sense to determine that some building types are by their very nature transitory, and that we can plan for them to be replaced as needed. It may actually be more environmentally reasonable to do so. The idea that all buildings should be saved and reused out of a moral sense that things ought not be wasted may prove not to be the best course. We have the choice of either building on existing shopping malls



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The idea that all buildings should be saved and reused out of a moral sense that things ought not be wasted may prove not to be the best course.

and creating denser, more vital, mixed-use communities from them, or razing them and being more conscientious about the patterns of development that replace them. But saving cheap, throw-away structures and treating them as heritage material doesn't make a lot of sense.

Margaret Crawford, in *Everyday Urbanism*, has very intelligently focused our attention on the urban landscape of everyday uses. And she has identified a number of ways which buildings, streetscapes, and spaces have been reused by new constituencies. But these lessons can also be misread. Describing organic changes in use is not the same thing as prescribing new patterns. In Boston, for example, we have many single-story neighborhood automotive uses (garages, repair shops, machine shops) where cars have long been accommodated. These uses have often been rendered obsolete by market forces, like the arrival of regional chain repair shops. But these existing automotive buildings, usually masonry structures, could serve as the parking base for new denser multifamily housing. This kind of reuse may lack the cultural

specificity of some of the examples in *Everyday Urbanism*, but it is a more prescriptive approach to dealing with a real problem facing our area: how to provide the new parking demanded by neighborhoods and consumers without adding to the amount of blacktop already in place.

At the end of the day, reuse will succeed because it makes economic sense. The locations, large windows, and dimensions of early 20th-century municipal schools made them tempting targets for reuse as residential condominiums. Developers are again calling on architects to help them identify the next phase of easy transformations from one use to another, more profitable one. Not all buildings will meet those exacting criteria. Some will be saved for cultural reasons, but others won't. And that's probably a good thing.

The second acts that we see occurring in our cities, suburbs, and rural communities are not all the same. Infrastructure has always been the greatest challenge, both to build and to maintain; reusing and building upon this asset should be a priority. But individual buildings represent more complex decisions. In the growing vogue for reusing everyday structures, we must distinguish between those structures whose future life holds real promise, and those whose promise is really nothing but a mirage. ■

George Thross is director of the School of Architecture at Northeastern University.


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Not So Different

An American curator finds the challenges facing architectural preservation in China strangely familiar.

by Nancy Berliner PhD

Staring out my window in the late 1980s onto a flowering pomegranate tree and the traditionally decorated interior gateway in the late-17th-century Beijing courtyard mansion was romantic. My life seemed linked with generations of men and women who had inhabited the same rooms in very different time periods. But most of the romance ended there. About 25 other families, in addition to mine, now occupied this once one-family compound, with only two toilets and a few cold-water faucets. Bicycles and junk that didn't fit inside the small rooms were piled everywhere in the courtyards; rampant gossip filled the air. Almost 40 years earlier, at the time of the 1949 Liberation of China, the owners of the home had left the country. The Ministry of Culture took over the compound and transformed the beautiful buildings into a "dormitory" for its personnel and their families. The project had been a good instance of reuse with the byproduct of preserving (in a manner) a historic structure.

In considering preservation and its current efforts in the Americas and Europe, glancing at another culture's approach to reuse and preservation may offer new perspectives on the

foreign culture as well as on our own. Today, American and European newspapers rightfully and heroically publish articles on the sad destruction these days in Beijing, where swaths of courtyard houses are demolished to make way for spanking-new malls, stadiums, and high-rises. But to say that architectural preservation is not part of the current Chinese thinking would be too simplistic. Preservation efforts originate with needs and missions, and those needs and missions often differ from culture to culture, and from group to group within one culture. Below are a few tales of needs, and of preservation, from China.



In 1949, the Communists liberated China with the mission to relieve the aching poverty suffered by a majority of the population throughout the country. Leaders of the party initiated land reform and other attempts to equalize wealth and opportunity, not all of which were successful. The division of the one-family home I lived in, and many like it, were part of these efforts.

In the ensuing years, the Chinese government also preserved and promoted specific landmarks that would echo its mission. Not unlike the restoration of Mount Vernon at the beginning of the preservation movement in the United States, government officials selected homes of exemplary revolutionaries to preserve and promote. The tamped-earth house where Chairman Mao Zedong grew up in the small village of Shaoshan in Hunan Province proclaimed his ties to the agricultural lifestyle of China's down-trodden peasants. By 1950, the house had already become a restored and well-maintained site open to the public. (In the past 60 years, over 40 million people have visited.) Mao's home was not the only residence preserved at the time. A large multi-courtyard compound in the town of Shaoxing in southern China, the childhood home of the revolutionary writer and poet Lu Xun (1881–1936), was restored and opened to the public in 1953. Built in 1754, the handsome residence exemplified the dwelling of a well-to-do family, but authorities presented it as a lesson in the nurture and development of a revolutionary soul.

Even the Forbidden City, for 500 years the center and symbol of the imperial power so disdained by the new government, had justification for its preservation. An illustration in a 1950s children's book depicts scaffolding surrounding the Hall of Supreme Harmony in the Forbidden City, and dozens of workers laboring to repair the monumental edifice. The caption under the drawing explains to young readers that the building is being restored so all the people will be able to view the masterful craftsmanship produced by toiling workers of the past. The message was to celebrate the creations of the ancient masses.

As the building of a new China and its new identity gathered momentum, many landmarks that did not fit the new needs and missions were cleared to make way for an improved vision. It was against this background that the great architectural historian Liang Sicheng (1901–1972), the first person to research, discover, and lay out the stylistic evolution of China's three millennia of architecture, went to Chairman Mao. Liang pleaded with the leader not to tear down the city wall encircling Beijing, to preserve all the older buildings within it, and to construct all new edifices outside the old city center. Mao deemed Liang's suggestion unpatriotic. How could the new state's most important edifices not be directly in the center of the metropolis? (Liang's daughter-in-law today remembers that the historian cried when he heard the subsequently announced plans for the future capital.)

But the struggle to reconcile architectural heritage and patriotic purpose is not confined to urban areas. The village of Huang Cun, in a remote part of Anhui Province, tore down its two ancestral shrines in the 1950s to contribute the bricks and timbers to a dam and reservoir project. Three decades later, the county announced its plan to take down the third ancestral shrine in the village for construction materials for an electric plant. A native of the village who had become a respected professor in Beijing heard about the proposal and was able to stop the demolition of the 450-year-old building.

Today in the same region, there are competing voices and needs in regards to preservation. Local governments know that preserved architecture brings tourists and therefore much-needed income to the area. But families in the villages are eager to carry on their lineages and need daughters-in-law to do so. And daughters-in-law — in strong demand — prefer new, modern homes.

The one-child-only policy and the favoring of boy children resulted in a shortage of girls, and potential brides. Young women today can therefore be selective about choosing husbands. Men with new houses and city jobs are far more attractive than those living in their families' multi-generational 200-year-old ancestral homes.

A woman in the village of Huang Cun is sitting in the interior courtyard of her family's 100-year-old home. She counters me when I compliment her on her house. "This old place, if we had more money, we'd tear it down..." "Why?!" she asks in response to my next question, incredulous that anyone would think otherwise. "Otherwise, we'll never get a daughter-in-law!"

She is far from alone in her thinking. A 20-something-year-old son in the same village recently told his father it was time to tear down the 18th-century home in which the whole extended family still lives. The son's reasoning: he could not find a wife. The father, a schoolteacher, cherishing the walls and windows that his ancestors had built for him and his descendants, offered his son a solution: modernize one bedroom for the future wife, but make all the new components reversible. The son erected walls within walls, added full-length mirrors and built-in cabinets and painted the entire interior of this first-floor bedroom pink. Within a year, he married, and the next year, a son arrived to carry on the lineage.





< Modernizing history: A home in Jimingyi (Cock's Crow Post Town) in Hebei Province from the Ming period (1368–1644) features a new ceiling made of woven strips of plastic Coca-Cola packaging. Photo by Nancy Berliner.

Riding in taxis around Beijing, which is already a good decade into a total transformation of its cityscape, I often take up my informal and continual survey on the local population's feelings about their changing surrounds. Where do you live, in a *pingfang* (a "flat house," a one-story traditional courtyard house) or an apartment building? I ask. Inevitably the answer is an apartment building, often with an added "But I grew up in a *pingfang*, a *dazayuanr*," the multifamily courtyard-type house like the one in which I had lived. How would you prefer to live? I ask. The answer is almost always "A *pingfang*. Everyone knew each other. Apartment buildings are so impersonal. No one talks to each other. But they're convenient..." Why don't you live in a *pingfang* now? "Who can afford to?!" Indeed, while some groups of families still inhabit *dazayuanr*, real estate in the districts of the old *hutong* — alleyways lined with enclosed courtyard houses with their grand gates and interior trees — is now affordable only to the very rich and the high officials.

Two unmarried sisters in Beijing live in five rooms of the 17th-century multi-courtyard home that has been handed down for generations in their family. One sister wants to install modern aluminum and plastic windows to keep out winter drafts. The other, unwilling to quarrel with her older sibling, cries herself to sleep thinking how their ancestors' home is being irreversibly modified.

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Today in Beijing, many people mourn for the spaces and environments they once called home — the quiet alleyways, the low roof-lines. They curse the new architectural landmarks by renowned foreign designers as alien to their Beijing, and have a series of offensive names linking them all in a popular poem. Perhaps a new appreciation for the past is emerging. As for the daughters-in-law...

Many of the challenges and approaches to preserving architectural structures in China have parallels in America and elsewhere in the world: The efforts to preserve homes of the heroes of the American Revolution (George Washington and John Quincy Adams). The endeavors to save and present the more modest dwellings of anonymous laborers who suffered hardships in the past (slave quarters at Monticello, the Lower East Side Tenement Museum). Structures presented as historic buildings despite significant modifications (Paul Revere's house). Economic cycles that preserve buildings by default in hard times, creating the basis for an eventual tourism economy that preserves but occasionally mis-presents those same buildings (Salem, Massachusetts during the 19th century). Local decisions to demolish whole neighborhoods in attempts to modernize or "revive" a city (the West End of Boston and, more recently, New London, Connecticut). The justifiable desires of individuals to live with modern conveniences and keep up with fashions that provide status

within their community; and the equally justifiable yearning for architectural environments that evoke the distinctive cultural identity of the place (Vermont and Nantucket).

And, finally, this: The usually well-intended but often conflicting aspirations among the multiple members of any society means that, despite preservation guidelines, codes, and standards, the man-made landscape will inevitably continue to unfold in fluid and sometimes even surprising shapes and forms.

A Chinese book on architecture lists a historic garden as still surviving in downtown Beijing. The address is a neon-lit contemporary restaurant hemmed in by skyscraping apartment buildings. Within the restaurant's courtyard is a man-made rockery and, atop the rockery, almost invisible to customers, an old pavilion. Clothes hang on a line outside the structure and a television plays within. Someone is living in one of the best-preserved gardens in town. ■

Nancy Berliner PhD is the curator of Chinese art at the Peabody Essex Museum in Salem, Massachusetts. She guided the dismantling, re-erection, and curatorial presentation of the Yin Yu Tang house, an 18th-century Chinese house from Anhui Province, now in Salem. She is a consultant to World Monuments Fund on the preservation and reviving of a never-before-restored two-acre, 27-pavilion garden within the Forbidden City. Her next exhibition at the Peabody Essex Museum, *Hidden Treasures from the Forbidden City, The Emperor's Private Paradise*, opens on September 14, 2010.

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In 2007, photographer Chris Mottalini was asked to document a house in Westport, Connecticut that was about to be demolished. It was no ordinary house, as he realized as soon as he crossed the threshold. The architect was Paul Rudolph, and Mottalini was about to embark on a new obsession. He has since captured what he calls "final portraits" of the three houses shown here, now demolished, as well as photographs of more than a dozen projects by the architect best known in New England for the Hurley Building (Lindemann Center) and First and Second Church in Boston; the Yale Art and Architecture building; and the campus of the University of Massachusetts Dartmouth.

Mottalini recorded the death throes of these houses — the ephemeral moment after they were abandoned by their owners and before they were destroyed. It is this sense of dread — the anticipation of violence — that hangs over each image, that lends poignancy to what the photographer describes as "the grace of these homes as they stood in defiance of severe neglect."

Together, these images present an effect rarely achieved in photography but familiar in film. The turning door knob in slasher movies, the scary music in horror flicks, the raised executioner's ax in costume dramas — and we know. Something very bad is about to happen.

With loss comes sorrow for what might have been. And so, too, do these images suggest other, happier, endings. Here are materials, details, and cabinetry that might have been reused or refurbished for their midcentury modishness. Here are spaces that might have sheltered other families. Here are the workings of one of the 20th century's most inventive architectural minds that might have been celebrated, or embraced in some new rendition. Those who hired Rudolph frequently gave him a commission containing the seed of its own demise: an extraordinary site. Individuals ultimately determine the fate of houses such as these: people who want a better view, bigger bedrooms, fancier finishes — a house that by some calculation reflects the inflated value of the land. There are times and circumstances when no one would blame them for their choice. But few designers will look at these photographs without imagining that these buildings could have had another life.

— Elizabeth S. Padjen FAIA

For more information, including additional images:
www.mottalini.com

After You Left They Took It Apart

Photographs by Chris Mottalini



Micheels House
Westport, Connecticut
1972-2007



Micheels House
Westport, Connecticut
1972–2007





Cerrito House
Watch Hill, Rhode Island
1956–2007







Twitchell House
Siesta Key, Florida
1941–2007





Ada Tolla is a principal of LOT-EK, a design firm based in New York and Naples, Italy that she founded in 1993 with Giuseppe Lignano. Recognized for its innovative adaptive reuse of industrial objects and systems, LOT-EK has been featured in numerous international publications and exhibitions. A graduate of the Università di Napoli and Columbia University, Tolla also teaches at Columbia University Graduate School of Architecture.



Jeff Stein AIA is head of the School of Architecture and dean of the Boston Architectural College.

Jeff Stein: When people are immersed in a new culture, they seem to react in one of two ways. Sometimes they bring their former lives, customs, and attitudes with them and try to impose them upon the new environment. But sometimes they revel in the new, taking advantage of their previous experience to see things in a fresh way, to see the opportunities. You and your partner Giuseppe Lignano fall into the second group. You came to the US from Italy, where you both studied architecture at the University of Naples in the 1980s. How would you describe your academic experience before coming here?

Ada Tolla: We were immersed in postmodernism, but it was an informed postmodernism. The postmodern movement in Italy was very different than in other parts of the world, especially in America, in the sense that it was never playful. It was really serious about the past. Being raised in Naples, we were heavily surrounded by history. In the end, we left the past and traveled to the present — we came to America. We discovered that there actually was a present, and one could do something in the present.

Studying in a place like Italy, you really learn about the history of architecture and come to appreciate the layering of history. You become very respectful. Coming to the US was like



opening a door into another time. It's not that we didn't know it — this was before the Web, but of course there was television. But our understanding of America was very filtered — it was never a direct experience. So looking at a completely different reality was very empowering. And the experience of looking at it with fresh eyes was very important.

Jeff Stein: What you've been able to do is discover some things that are invisible to those of us who haven't had the really visceral historic experience that you have had. You make them visible.

Ada Tolla: The artist Ellen Wexler put it in slightly different terms. She said that because we are blind to the content of what these things represent, we are able to see them in a more abstract way.

Jeff Stein: My office, on the sixth floor of the Boston Architectural College, looks out over mostly four-story 19th-century brick buildings in Boston's Back Bay. From that perspective, the main feature of these historic buildings is all the machines that are

attached to them to make them useful and livable — elevator penthouses, air-conditioning units, cooling towers, fire escapes. We try to overlook that stuff — by pretending it's not there, it isn't there. You bring it back into our consciousness.

Ada Tolla: Designers tend to think those machines and devices disrupt and destroy what they think of as architecture: the main volume. Instead, from the beginning, we felt a positive energy in the way in which this country just does things: In order to provide the comfort, the safety, the efficiency, the things that we need as human beings living in this kind of environment, you just go ahead and do it. You add air conditioning. You put a fire escape in front of building façades. You run an elevated highway through a city right in front of buildings. You make these really powerful gestures and interact in a very interesting way with what we, more conventionally, consider as architecture. Giuseppe and I immediately sensed those gestures as something very positive, not negative, and something that had a lot of potential, exactly because it is uncontrolled and not "designed."

As we were trying to understand our interest in that phenomenon, we talked about the idea of artificial nature, the idea that there is an aspect of architecture that is a layer within our built environment that develops on its own, that is not controlled by anybody, that just grows. It's similar to

Raw Material

The New York design firm LOT-EK caught Boston's attention with its design for the temporary Puma City on Fan Pier, using shipping containers. When you mine the industrial landscape, the possibilities are endless.

Ada Tolla talks with **Jeff Stein** AIA

the way nature behaves. Stuff pops up and appears — tanks, air conditioning, billboards — and all these other layers that belong to our civilization just grow and infest and interact with architecture as we traditionally think of it. In reality, they are a huge part of our visual culture and our urban culture.

Jeff Stein: I want to ask about the name of your firm, LOT-EK [pronounced “low tech”]. In the William Gibson short story, “Johnny Mnemonic,” Johnny visits the Lo Teks, an urban tribe living in the ruins of the San Francisco/Oakland Bay Bridge. Here’s a quotation from the book: As Johnny is “...led up into refuge in their future primitive aerie of repurposed industrial detritus, the copious graffiti on the weathered domes below actually fades until only a single name appears: LO TEK in dripping black capitals. ‘Who’s Lotek?’ he asks. ‘Not us, boss,’ they say.”

This is interesting to me for two reasons. One is for the science fiction reference in the name of your firm, a post-apocalyptic science fiction at that. The other is because your work does in fact take an attitude toward technology: it re-purposes some actual high-technology objects — welded metal boxes, the basis of world trade — by just stacking them up. Doing so makes us confront our attitudes about what, a generation ago, we imagined to be high-tech stuff in architectural culture.

Ada Tolla: The surprising thing is that we hadn’t even read Gibson. The name emerged at the end of the ’80s, when the word “high-tech” had become ever-present in our discourse and culture. But our focus wasn’t ever just on the low-tech; it was really on both Low and Tech and the way those two things interacted. Our interest is in the man-made and in the byproducts of our civilization and our own present. It’s a way to engage with what we are right now as a culture in a positive critical way, not just in terms of the negative environmental consequences of the Industrial Revolution.

Most of the raw materials that we end up using are already highly processed when they come to us; even natural materials — wood, for instance — comes to us as four-by-eights, two-by-fours. By the time you get it, it’s already a man-made product.

Ada Tolla

Jeff Stein: Your firm is well known for your reuse of industrial products. It’s not the same as recycling. You’re not moralistic; instead, you take a celebratory attitude. Recycling has to do with converting waste into reusable materials or returning a material to a previous stage in a cyclic process, but that’s not exactly what happens when you reuse things.

Ada Tolla: For us, the most important aspect of reuse is the

creative one. In that sense, we both belong and don’t belong in the category of what is called sustainable practice. Recycling is not our first mission.

Jeff Stein: It’s just an unintended consequence?

Ada Tolla: Exactly. From the very beginning, our main interest, as young architects practicing within an extremely urban environment, was the question, What are our raw materials? Most of the raw materials that we end up using are already highly processed when they come to us; even natural materials — wood, for instance — comes to us as four-by-eights, two-by-fours. By the time you get it, it’s already a man-made product.

So the question became, Can we draw these raw materials out of what is already around us? Our first two larger-scale projects used trucks; we’re in the meat-packing district in New York, so we’re surrounded by these trucks that deliver meat and that’s what we see out our windows. In a way, it overlaps with some of the logic of sustainable practice, where everything is about “local.” New Jersey’s been a great source for us. Thank God that we’ve got industrial New Jersey, otherwise we would be out of business!

We immediately became interested in the chemical reaction that is generated when you bring together a program — which is a great thing about architecture, because you have this given purpose that you have to deal with and that offers a good amount of resistance — and an object. There’s a clash, and then you have to see what gives and what doesn’t. It’s an amazing process because what happens is less about form-making, less about starting from a blank sheet and drawing a beautiful picture, and more about establishing a dialogue and seeing how unexpected solutions emerge.

Jeff Stein: One aspect of your work that distinguishes you from some sustainable practices is that you immediately see the architectural potential of these objects.

Ada Tolla: That simple, even banal, object on the street has interesting architectural potential the moment it contains a space, or as soon as it can be seen as modular or stackable or transformable. When we import these objects into other environments, they bring all their previous connotations, but they also become something else within the project. And these objects are ubiquitous in man-made America. Along with being this culture of people who pollute the planet, we are also an incredible culture of makers. We are very productive and there’s a lot of ingenuity in that production.

Jeff Stein: You and Giuseppe are certainly part of the culture of makers. Your output since forming a firm almost 20 years ago is amazing, not just in terms of buildings that we can visit, but also in the number of temporary installations in galleries, public places, museums — places where the public can have a whole-body experience of your work.

Ada Tolla: When we started, we were very focused on becoming a “real” architecture practice, although we started in a very unusual

way, by making things. Parenthetically, I must tell you that in architecture school, we never built one physical model, ever.

Jeff Stein: So you must have been longing to do this sort of thing.

Ada Tolla: Yes. Giuseppe always said that, from childhood on, he was somebody who would undo things to understand how they were put together. I, on the other hand, was brought up as a girl; I don't think I ever even held a screwdriver. But the idea of actually trying to make things allowed us to engage with what we were doing. The first projects have a lot of detail because they were made with our own hands. Then there came a moment when we realized that we didn't have the expertise anymore, and that, in order to learn, we had to start working with other people.

This unconventional start was more typical of an artist trajectory than an architect trajectory. We never worked for an architecture office here in the States. We already had the idea of LOT-EK. We knew what we wanted to do. So we made our money at night doing other things, and in the daytime we were here in our office experimenting with the idea of making things. We started to get some interesting commissions — a lot of work came from the art world in the beginning; it was much more responsive to us than the architecture world. The architecture world didn't really know our place. We weren't really an architecture office, you know? We were saying that we were, but we weren't. But we loved the fact that the span of our projects was very broad and of a very different scale, and the temporality allowed us to play with things that we were interested in, that couldn't necessarily be played with within the confines of conventional building design.

Jeff Stein: There's a sense that your work isn't pretty, but that there is a beauty to it.

Ada Tolla: It's interesting that you bring up the issue of beauty, because that's something that has come up a lot.

Jeff Stein: I'm sure, because you use found objects that we not only tend to overlook in the landscape, but also actually try to overlook, because as they're used in their first life, they aren't understood to be beautiful. But when you pluck them out of their context, all of a sudden we can see some of that beauty.

Ada Tolla: We truly love the objects that we work with. We love how fantastic they are, how well they were conceived. We are not just reusing the object, but also reusing all the human intelligence that went into developing them.

Jeff Stein: The artificial intelligence pioneer Marvin Minsky



once said to me, "You're an architect, maybe you can tell me — all children learn to make buildings with building blocks. So, what happened? Why is it that we don't do this as adults? Why don't we build buildings with building blocks?" In one sense, you actually do build buildings with building blocks — how else to describe your work with shipping containers? Architecture is about transformation, and that's what you do: you transform found objects.

Ada Tolla: Seeing a container depot for the first time was a mystical experience. And it was completely accidental. It was in the early '90s, when we used to say, OK, let's drive around New Jersey to see what we can use. It was a Sunday, so no one was working, and we stumbled across this shipping container depot. Beautiful winter day, blue sky. We still have the photos, not digital at that time. I remember at one point I actually said, "I haven't been so excited about being in a built environment in a long time."

When we talk about shipping containers now, we show those pictures to communicate the experience. Because there in the depot, you can see the avenue, the piazza, the little street, the façade — all the components of the urban built environment as we think of it. And we felt that potential immediately. This is not just a block, it's something that can take on a different scale.

Jeff Stein: There's also the potential in their sheer quantity. There are several million containers sitting around in ports all over the world. Does anyone come to you with commissions for shipping container reuse?

Ada Tolla: Yes. We started with this excitement about the box and what it can do. We first applied the concept to a competition for the Gorée Memorial Museum in Dakar, where we used hundreds of containers. That was the first shipping container project, and it demonstrated the potential of these boxes at a large architectural scale, beyond the beauty of the object itself. From that moment on,



That simple, even banal, object on the street has interesting architectural potential the moment it contains a space, or as soon as it can be seen as modular or stackable or transformable.

Ada Tolla

we embraced a huge learning curve, understanding the container, how it works, how it's made, how it operates, how you can transform it. We experimented with it, and we're still experimenting with it. We recently did two designs for five-story residential buildings for a project with a master plan by MVRDV; we are rotating the stack of containers and cutting it on a slant and creating a completely different kind of configuration from what we've done in the past. People see now that we have an expertise with shipping containers, and they do come to us, as Puma did.

Jeff Stein: Thousands of us in Boston experienced Puma City when the Volvo Ocean Race was here last summer. It was fabulous: the overall form of Puma City exactly mirrored the new Institute of Contemporary Art on another pier just across the water.

Ada Tolla: It looked like a little kid right next to its mama.

Jeff Stein: Exactly. And several million dollars cheaper, too. But

Photo: Patrick Burke, Tony Round



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what was most fascinating was to see how you were able to make real spaces, both indoor and outdoor, by shifting the stacking of the containers a little bit and of course cutting between them. You use boxes, but the space that you create isn't just about the box. It's more complex. And more memorable and more fun. I wonder if the sense of movement that these things embody—the fact they've been places—affects your work in some way.

Ada Tolla: We do think about the idea of mobility—on two levels. There is the idea of mobile architecture, portable architecture. But even more intriguing is the idea of global culture: How can a project address our global culture in a positive way? So here are these boxes that people had been complaining about because they are accumulating because of the imbalance of trade. They are part of our global network. But with some creative effort, you see them in a completely different way.

Jeff Stein: And yet they keep their identity. You seem to know when to stop, how to keep your architecture from getting too fussy, so we can still recognize the found object. Where do you take this next?

Ada Tolla: I don't know. We've done a lot of projects with containers; we're very proud of that and will continue to work with them. But we are also continuing the exploration with other objects. Airplanes are something we've been fascinated with forever; like containers, there are growing numbers of decommissioned aircraft. We have done some recent projects that have allowed us to

learn how an airplane is made, what you can do with it, and how you can transform it. You have to know which ones make sense to reuse and which ones don't, because of transportation or cost.

Jeff Stein: I would think that there is another level of difficulty in working with airplanes—unlike containers, these things are shaped for a particular airflow. There's a directionality to them.

Ada Tolla: But we always think that the limitations are also the potential, right?

Jeff Stein: Yes, that's right. There's no creativity without tight parameters.

Ada Tolla: The limitations of the airplane take you in a completely different direction—one that has great spatial and volumetric qualities, but is not formally driven. You don't start by thinking you want to do this space as a curve. You end up with a different spatial experience because you merged these two fuselages or these five fuselages. And that is ultimately what intrigues us: the idea that all of a sudden we find ourselves interacting with different kinds of places and spaces that are surprising and strange, but exciting. The limitations are what push you and then, suddenly, you are inventing a new kind of space. ■

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WHITE ON WHITE: CHURCHES OF RURAL NEW ENGLAND

Photographs by Steve Rosenthal
 Essay by Verlyn Klinkenborg
 Afterword by Robert Campbell FAIA
 The Monacelli Press, 2009

A distinguished architectural

photographer, Steve Rosenthal is known to many for his crisp images of New England's important new buildings, including Kallmann and McKinnell's Boston City Hall, Cobb's Hancock Tower, and Kahn's Exeter Library. Less known is his longtime, quiet obsession: making black-and-white photographs of New England churches.

These striking images have been bound together in large-format plates in a beautiful book. A foreword by Verlyn Klinkenborg, who is on the editorial board at *The New York Times*, and an afterword by *Boston Globe* architecture critic Robert Campbell FAIA provide thoughtful context to view these photographs as art.

Any art form has its limitations, of course. The sonnet form restricts a poem with specific meter and a fixed number of feet and lines. When beauty emerges from a sonnet, it seems all the more astonishing because of the apparent restrictions of the form. However, the tension between the meaning and the form are inextricably connected.

Photography, and particularly black-and-white photography, has many

limitations analogous to the limitations of the sonnet form. The photographer's view of the world is already limited by a monocular lens, but the black-and-white photographer is further limited by the absence of color. Surely color would give a greater scope for conveying meaning?

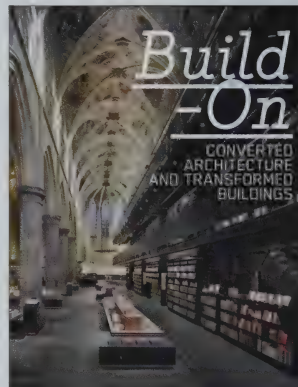
But in the hands of an artist such as Steve Rosenthal, the black-and-white format intensifies the meaning. The images in this book are astonishing. Their subjects are the iconic white, 18th- and 19th-century structures that were once the center of community life in the region and still define the New England landscape today. Rosenthal gives them an epic stature. Through the sensitivity of his eye and the clarity of his compositions, these frail wooden barns — indeed they were built mostly for farmers — become heroic, timeless architecture.

In these photographs, the reader will find a full education in architecture. Here are essays on siting, context, and urbanism. Here are essays on the efficiency of form as it relates to function, on the use of daylight and sun, and on the role of structure. These photographs are essays in style, and how style carries meaning.

And further, these photographs are essays in the human spirit. Through Rosenthal's lens, we feel — and this is no exaggeration — the human will to immortality and the reach for meaning across time. The builders of these New England treasures were housewrights and carpenters, whose knowledge of history and the larger world seems hopelessly limited when compared to our age of plane travel and the Internet.

But with the availability of pattern books, the builders of these essential New England buildings were able to reuse the forms of ancient temples and medieval cathedrals. Timeless forms were made new. Steve Rosenthal's haunting, dreamlike, beautiful photographs will forever change our sense of these country churches.

John Tittmann AIA is a principal at Albert, Righter & Tittmann in Boston



BUILD-ON: CONVERTED ARCHITECTURE AND TRANSFORMED BUILDINGS

Edited by Robert Klanten and Lukas Feireiss
 Gestalten, 2009

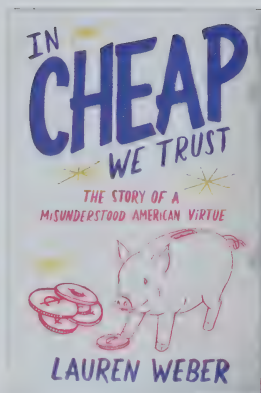
The possibility of transformation is one of the great promises of working with existing buildings. This is an elusive goal; to begin with something old, introduce a new ingredient, and end with the unexpected — which is somehow both familiar and new — requires both deference and assertion. Several examples of this alchemy appear in the projects illustrated in *Build-On*. Unfortunately, the book's enthusiasm is diluted somewhat by the sheer number of examples cited.

With lush color photographs and short descriptive essays, the book features over 85 projects from around the world (mostly Western Europe), including many that may not be widely recognized in the US. Although no table of contents is provided (the projects are indexed by architect at the end of the book), the book is divided into three themed chapters. In the first, "Add-on," new spaces are added or superimposed onto existing structures. In "Inside-Out," exteriors remain largely intact, while interiors are fundamentally altered. "Change Clothes," the most interesting, looks at works that attempt to change the face of the existing structure. Although this last implies a focus on appearance, it features the repurposing of

several unused industrial sites. Other themes reappear periodically, such as revealing the layers of time (the Ljubljana City Museum) or the multiplicity of uses over the life of a structure (the National Sculpture Museum in Valladolid). Some simply strive to preserve the relevance of a rare building type (the Cascais Music Conservatory). All share a forward-looking embrace of contemporary sensibilities.

The editors reference the work of Marcel Duchamp and the “as-found” strategy of architects Alison and Peter Smithson as progenitors for a new way of thinking about the built environment. While the editors align the theme of architectural reuse with these strategies, which challenged notions of conventional perception and the dogmatic excesses of the Modernism of their day, the book also shines a welcome light on what are in fact older, more balanced ways of thinking about architecture. The timing of the book is interesting as we grapple with the excesses of our own time. Renovation and addition are by their very nature sustainable acts that require direct understanding of the artifact and its technology and demand a deeper, more intimate engagement with an existing context. I wish *Build-On* told more of the story of this engagement. The most valuable lessons from these projects are often the dead ends, puzzles solved, and trials overcome. The projects presented deserve our attention, but the telling would benefit greatly from revealing the process, the thinking, and the decision-making that shaped the outcome of each one. The number of compelling examples cited is argument enough to make the case that there is more to say on this topic. At the very least, *Build-On* can light the path for future study by young designers who are beginning their search today.

Craig Mutter AIA, LEED AP is an associate at Machado-Silvetti Associates. He is the co-editor (with Elite Kedan AIA and Jon Dreyfous RA) of *Provisional: Emerging Modes of Architectural Practice USA*.



IN CHEAP WE TRUST: THE STORY OF A MISUNDERSTOOD AMERICAN VIRTUE

By Lauren Weber
Little, Brown & Company, 2009

Lauren Weber's description of her penny-pinching dad sounds like my father, and maybe yours, too: they set the thermostat to “chilly” and tell their kids to wear sweaters. But Weber's dad takes thrift further. He uses teabags 12 times and once attempted to ration his family's toilet-paper (he failed in this endeavor).

After uncovering her own frugality's roots, Weber addresses the American relationship with thrift. She begins with the etymology of the word “cheap,” and proceeds through early American history to the present. The first few chapters are dry, as if Weber were producing the world's longest social-studies report, but her book is important and ultimately fascinating.

The American relationship with money is dizzying. Early Puritans exhorted thrift, but became wealthy by plundering this continent's abundance. Benjamin Franklin linked parsimony with patriotism; post-Revolutionary patriots acquired goods greedily. Saving has been a virtue during every war but the most recent; spending is encouraged afterward. The speed with which “We the People” ricochet between frugality and indulgence is akin to proclamations about coffee or wine: Good for you! Bad for you! Good! No, bad!

Despite this ping-ponging, frugality was considered a virtue until after World War II, when Americans were enlisted in a new war: fighting recession. Citizens were urged to buy homes, cars, washing machines — setting the stage for the post-9/11 cry, “Go shopping. Show you're not afraid.”

Weber proffers ideas and resources for thrifty living. From the online network “Freecycle” to clothing swaps, Americans are learning to trade and reuse, rather than discard. “Freegans” opt out of the economic system altogether: mostly unemployed, they dumpster-dive for food and cultivate tradable skills like carpentry and computer repair.

The author casts a wide net, drawing in American history, the psychology of cheapness, its environmental impact, moral connotations, and its global economic effects. While her scope makes the book a bit messy, she manages a synthesis of disparate subjects — a sort of unified field theory of cheapness.

As Weber explains, the American lust for consumer goods burns holes in our pockets and warms the globe. And the connection between our sense of material entitlement, our personal financial woes, and the national and global economic crises is frightening. The average American savings rate is at an all-time low of zero. High savings rates support business investments; investments fuel growth. We spend more than we save, so America makes up the difference by borrowing from thriftier countries: China. We're in hock. Khrushchev once bellowed to Westerners, “We will bury you!” China may soon declare, “We own you!”

In Cheap We Trust is thorough and provocative. It will force readers to take a second look at spending and saving — at our needs, our wants, and the world we live in together.

Julie Waggoner is a freelance writer and the principal of MicaBlue Creative, a graphic design and marketing firm in West Whately, Massachusetts.

Covering the Issues

Fasten your seat belts... The housing crisis may be improving, but big problems in the commercial real-estate industry still loom, according to a *BusinessWeek* cover story (November 16, 2009). The statistics are staggering. Mara Der Jovanesian and Dean Foust report that “between now and 2012, more than \$1.4 trillion worth of commercial real-estate loans will come due,” while perhaps as many as three-quarters of the loans made during the height of the bubble will face trouble refinancing. Thirty US cities now have at least \$1 billion in “troubled” commercial loans, up from only one a year ago. Jovanesian and Foust predict the market won’t fully recover for at least another decade.

It’s a reach... Jeff Chu sends up a scathing account of “The Rise and Fall of Design Within Reach” (*Fast Company*, December 2009). Founded in the Time Before *Dwell*, Design Within Reach helped make Eames a household name via an online store and glossy catalogue that seemed to teach us about good design as much as it sold us furniture. Oh, life was so easy then. Fast-forward through an enormous retail-store expansion, multiple management transitions, an economic crash, and some eye-poppingly questionable DWR-sponsored knockoffs of signature design pieces (lawsuits included), and the glossy sheen is long gone.

Home, sweet home... The nation’s most innovative experiment in housing design and urban life is happening in New Orleans, suggests Wayne Curtis in “Houses of the Future” (*The Atlantic*, November 2009). Independent developers have stepped into the void left by federal government inaction. Curtis profiles five programs producing houses that exemplify both utopian thinking and

real-world innovation in formal design, environmental performance, financing, community participation, and self-construction. Though Andres Duany and the Tulane School of Architecture play pivotal roles, Curtis makes a strong case for the projects sponsored by Brad Pitt as the most ambitious and inventive of the bunch. And in the end, New Orleans offers a fascinating hybrid: the projects getting built are neither completely grassroots nor Robert Moses-style planning, and some of the most profound sustainable lessons are being learned from the old, pre-storm architecture.

Seventh-inning stretch... Ostensibly, art critic Michael Kimmelman has written a review of Dana Brand’s *The Last Days of Shea: Delight and Despair in the Life of a Mets Fan* for *The New York Review of Books* (November 19, 2009). But the delightful reality is that Kimmelman has actually written a lively, passionate, personal essay on the architecture of the new New York ballparks as only a lifelong fan can (the new Yankee stadium is “a big, pompous stage”). The lulls in the game—which provide time to reflect on the big questions of life, such as what the pitcher’s next move might be—have been replaced by forced entertainment, fancy food in \$1,000 seats, and shopping opportunities. Amid all the expensive noise of conspicuous consumption, what does this new generation of ballparks miss? Community. Shea’s immense concrete donut never looked so good.

Green Lite... Are LEED-rated buildings measuring up to their energy-performing promises? Not entirely, according to two new reports that Jennie Rothenberg Gritz discusses in “The Green Façade” (*The Atlantic*, online “Dispatch,” November 24, 2009). In one fall 2009



report, GreenerBuildings.com editor and LEED founder Rob Watson states that, despite good performance in other areas, LEED buildings are not producing energy savings as expected. Chicago’s USGBC chapter issued a similar report last fall, stating that LEED-certified buildings in Illinois were performing only 5 percent better than their non-LEED cousins, less than 30 percent of LEED-certified projects met Energy Star standards, and a full 75 percent of energy-modeled buildings fell short of predictions. Why? The problems lie in the mix-and-match point system, and the lack of incentives to measure or improve daily energy performance. With new LEED certification guidelines for operation and management of existing buildings, change may be coming.

Gretchen Schneider AIA, LEED AP is the principal of Schneider Studio in Boston.

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ExCL

It was what has become a typical Monday since I was laid off. After spending a day trying to keep myself busy, I was more than happy to accompany my girlfriend on a trip to Boston Latin Academy. A kindergarten teacher, she had been given a pass to the ExCL recycling center located in the basement of Latin Academy and wanted my help carrying whatever treasures she found. Sure, it doesn't sound like the most entertaining way to spend an afternoon. But it was a welcome break from my weekday routine.

Neither of us had ever been to ExCL — formally, Extras for Creative Learning, a nonprofit offering free supplies and materials to members including teachers, families, students, and artists. As the son of two teachers in the Boston Public School system, I'm familiar with educators' hunger for classroom supplies and the lengths they're willing to go to for coveted objects like pencils, notebooks, and copy paper. I had heard tales of ExCL, but as an intern-architect, I was never particularly interested in the place. It seemed to have little to do with me or my chosen profession.

After we were buzzed into the building, we made our way down a short flight of stairs to a large open room in the basement that was full of "stuff." And I mean full. Shelves and bins lined the space, overflowing with items from yellowing lined paper, to rolls of felt, to unused pipettes. Like a combination office-supply warehouse and flea market, a collection of chairs, desks, and filing cabinets sat beside 55-gallon drums filled with rubber bands, scraps of fabric, yarn, and lemon-juice bottles — with boxes of audio cassettes, old educational VHS tapes, and CDs by unknown artists stacked in the far corner.

My initial thought was, "Where did all this stuff come from — and who's going to use it?"

We had barely finished checking in



before my girlfriend disappeared, a teacher-turned-treasure hunter abandoning me for her quest. Left to wander on my own, I was busy looking through a pile of 12" records, hoping for a rare Sun Ra or Thelonious Monk, when a nearby shelf caught my attention. It held a pile of what I realized were manufacturers' glazing samples — something you see all the time in an architecture office, but that I never expected to find in the basement of a Boston public school. I walked over to get a better look.

This is when things got a little weird.

Picking up the top sample, I noticed the label, which bore the name of my previous employer — the same employer who had created this window of free time for me on Monday afternoons.

Looking over the rest of the glass, I discovered that nearly all the samples had come from that same firm. I searched for more. Nearby, I found stone and tile squares, strips of wood flooring, and upholstery samples. All together, this collection would have made a respectable library for a small office.

I went looking for my girlfriend — only to find her making a pile of three-ring binders, nearly all of which came from some part of the construction industry.

The spines were still labeled with the names of elevator manufacturers, construction firms, and all types of materials suppliers.

I looked back at the samples and felt an odd affinity with these inanimate objects — we were all in that basement for the same reason, all casualties of the recession. I was there because my current state of underemployment allowed me to go on scavenger hunts for recycled goods at four in the afternoon. These samples were there because firms found themselves with a rare opportunity: enough free time to clean out and organize their libraries.

As we left, we passed a sign saying, "Staff only beyond this point." I couldn't help but wonder if they were making room for more offerings from the design industry. Maybe I'll suggest that they build a holding-pen for discarded junior designers and recent grads: "Young design professionals, for your creative repurposing! (Limit 2 per customer)." ■

Ryan McClain, ASSOC. AIA is a designer in Boston and the author of the blog AMNP: Architecture MyNinjaPlease (<http://architecture.myninajaplease.com>). For information about ExCL, including donations and membership: www.exclrecycles.org.

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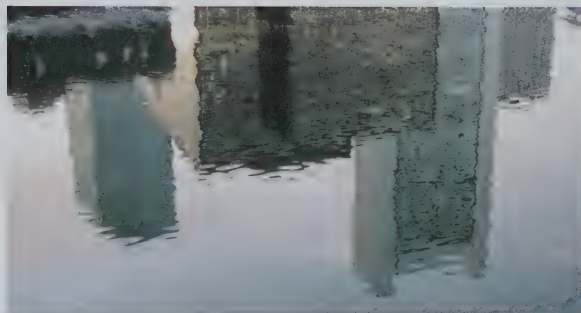
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Harvard University Statistics Department

The Swimsuit Issue

It was a classic editor's dilemma: how to sex up a magazine issue devoted to an important but — let's admit it — possibly wonky discussion of water, policy, and design.

And then the skies opened.

At this writing, New England has been hit by two storm systems producing record-breaking rainfalls and catastrophic flooding. Boston alone has received 14 inches of rain. Suddenly everyone is a policy expert: television reporters fill newscasts with spot interviews about combined sewer outfalls and FEMA maps. People understand, with painfully earned clarity, the complex relationship between infrastructure and the environment, and the effects on their health and welfare. The questions of where, what, and how we build have rarely seemed so important.

This will undoubtedly prove to be a mixed blessing for those who have been laboring to promote effective water management policy in this region. New Englanders have been famously complacent about the challenges facing this region: gardens grow, water flows from the tap, beaches seem cleaner — what's to worry about? Plenty, it turns out. But it may be hard to focus attention on concerns such as groundwater recharge or low river flow when YouTube videos of imperilled dams and washed-out roadways are so fresh in our memory.

Focusing public attention is not the only challenge for those who care about water resources, both salt and fresh. The path from science to policy to regulation to implementation was murky enough without the recent controversies and politics associated with climate change. Those who labor in what has been called "Water World" — the dedicated army of environmentalists, scientists, researchers, engineers, planners, and lawyers working in public agencies, universities, think tanks, and nonprofits as well as in the private sector — struggle to promote prudent policy that is often at odds with individual behaviors and interests.

The inevitable result is an omnium-gatherum of regulatory devices administered by international organizations, federal and state agencies, municipal code officials, and volunteer boards. Conflicts abound, good intentions are thwarted. And no one sees this more clearly on a daily basis than architects.

Architects occupy a territory that is at the intersection between water policy and implementation — a territory perhaps better likened to a traffic rotary, with participants moving seemingly in the same direction but actually toward different destinations, with the attendant confusion, stress, and

occasional crash. From that vantage point, architects can see that new approaches to wastewater management are often at cross-purposes with communities that have learned to control growth through septic-system regulations. They know that protection of coastal wetlands often conflicts with developers and cash-starved coastal communities hoping to cash in on waterfront access. They hear firsthand that federal and state conservation mandates can lead to consumer frustration with new products and appliances that fail to perform as expected. They witness well-intentioned building owners and developers discouraged by local permitting processes.

One problem is that we are not starting fresh: New Englanders in particular must contend with established building patterns and aging infrastructure. Even a quick glance at a US Geological Survey map of eastern Massachusetts is enough to identify vast tracts that environmental planners today would probably redline. But the Chelsea tank farms occupy what might otherwise be clam flats, homeowners struggle to stabilize their houses on Plum Island despite erosion of the barrier beach, and neighborhoods encroaching on Revere's Rumney Marsh (recognized as one of the state's most biologically significant estuaries) thrive even as their foundations settle. These are not situations easily undone.

Since the March floods, the questions of where, what, and how we build have rarely seemed so important.

Similarly, we have inherited political structures that often frustrate reform. Competing jurisdictions can be formidable roadblocks, especially to hybrid solutions that emerge from a more sophisticated understanding of complex systems. A plumbing code that is developed and administered separately from a building code makes little sense in this new world.

A more effective, integrated approach to water resources will someday be implemented, simply because it must. The question is only one of time — and the attendant cost due to waste, inefficiency, and natural calamity. ■

Elizabeth S. Padjen FAIA
Editor

Letters Letters Letters

Chris Mottalini's "After You Left, They Took It Apart" [Spring 2010] draws attention to the very real threat to many of Paul Rudolph's architectural masterpieces. The loss of Rudolph's work has been noticed beyond the architectural community, with the term "Rudolphed" added to the online Urban Dictionary to describe "any of innumerable mid-century modernist structures facing the wrecking ball."

The Paul Rudolph Foundation was founded to protect, preserve, and promote the architectural legacy of America's foremost Late Modernist. One of the Foundation's primary goals is advocating for the preservation of Rudolph's buildings, and it commissioned Chris Mottalini to photograph these homes only after all efforts to save them had been exhausted.

We believe that preservation is a key part of educating others about Rudolph's legacy — by perpetuating the direct experience of the architect's spaces. As Edward Hopper noted, "If you could say it in words, there would be no reason to paint." The same can be said for the power of Paul Rudolph's architecture — if its subtlety and spatial complexity could be captured, it would not need to be personally experienced in three dimensions.

It is encouraging to see that Paul Rudolph's architecture inspires artists like Chris Mottalini to continue his work well beyond the Foundation's original commission. But without preservation of the buildings he is photographing, the true genius of Rudolph's mastery of space and light will be lost to future generations. History will not judge us on what we have built, as much as what we refused to destroy.

Kelvin Dickinson
The Paul Rudolph Foundation
New York City

Nancy Berliner's comparative perspective ["Not So Different," Spring 2010] addresses the mass clearance of urban fabric in Chinese cities in the light of our country's past half-century of modernization. The fresh and concrete

examples drawn from her personal life in China spotlight some of the planning issues that we indirectly tackle through a curatorial approach derived from the principles of fine-arts conservation. Those principles are flexible and robust, particularly as they were originally encoded in the Secretary of the Interior's Standards for Rehabilitation of Historic Structures. They operate as physically conservative and either may or may not be culturally progressive. In any case, their efficacy as positive planning tools is questionable.

It is worth recalling that our country's historic commissions and their legal powers mostly responded to post-World War II urban renewal and highway expansion when thousands of buildings were demolished. Today, damage to cities and towns may come less from thoughtless demolition than from our undermining historic town centers when we relocate retail, municipal, and county functions to sites that nobody can reach on foot. Anthropologists can characterize the cycle of successful historic preservation as the structural transformation from Trash to Glorious National Heritage, but in our profession more interesting narratives may already be taking shape as young designers pursue combined works with fewer curatorial inhibitions.

Henry Moss AIA
Concord, Massachusetts
Co-chair, BSA Historic Resources
Committee

Your Re:Use issue [Spring 2010] was very provocative. We do indeed live and operate in a new era. For over five decades, preservation was paramount. It resulted in the restoration of significant landmarks and critical urban fabric, but the rules, ethics, and intentions of preservation have certainly changed. A curatorial approach to fixing a building in a particular place in time lacks relevance in the broader challenges facing the design community today — such as reuse of anonymous midcentury buildings, post-industrial

landscapes, and more recent construction that is already obsolete.

New guiding principals are emerging — frugality, sustainability, and the conservation of capital — and reuse can effectively achieve these goals. What is most exciting is the potential for reuse projects to fundamentally transform the meaning and purpose of the artifact, ultimately creating a new entity.

The hope is that through these acts of re-appropriation we are enriching the environment by creating new meaning, but also by continuing an active dialogue with our cultural legacy.

Robert Miklos FAIA
designLAB architects
Boston

George Thrush's interesting article ["After Life: Designing What Comes Next," Spring 2010] concludes by suggesting the sensible notion that not all buildings deserve to be saved. This raises the provocative question of whether all communities, particularly suburban dormitory communities with no supporting transportation infrastructure or other inherent economic advantage of location, deserve to be saved. The first question isn't really whether a suburban big-box retail store can be repurposed in place as a church or indoor racetrack, but whether *any* building would make sense in a particular location once gasoline prices reach six, seven, or twelve dollars per gallon, as they inevitably will.

As the article points out, "reuse will succeed because it makes economic sense," but those economics are likely to be wrenching and involve demographic shifts which inevitably require the abandonment of previously developed areas. The same energy-driven economics which will force the realignment of population around transportation infrastructure will also change the equation for material reuse. Rule-of-thumb ratios of labor to material costs per square foot for an urban new construction project are typically 60/40.

This will change in favor of material as the embodied energy costs of materials rise. The value of components in existing buildings will therefore become more valuable, whether reused in place or recycled to be used in new buildings elsewhere. That geographically inconvenient big-box retail store in Thrush's article may be reused after all, relocated piece by piece, which suggests a bright future for the building salvage industry particularly, and of recycling generally. Like the farmer in Amelia Thrall's essay ["Recycling 2.0/Materials," Spring 2010], we are all destined to be saving balls of string in the not-too-distant future.

Michael E. Liu AIA, NCARB
The Architectural Team
Chelsea, Massachusetts

It is clear that sustainability/reuse challenges are quite different in the industries of fashion, architecture, and consumer products, and that some progress is being made in each of these areas. I have followed the work of Natalie Chanin ["Recycling 2.0/Fashion," Spring 2010] after hearing her speak at a materials conference in New York and have been impressed with the creatively detailed clothes she designs out of reused t-shirts as well as the fact that she uses local Alabama women to hand-sew the garments. This is a praiseworthy model for other industries: reuse existing materials and create manufacturing in the US.

Reuse challenges in architecture and product design are a bit more complex. One of the hallmarks of good architecture is the ability to withstand the test of both time and taste. Thoughtful buildings could easily be repurposed if they are built to outlive the short-term mentality of our times. Cradle to Cradle guidelines suggest that for the recycling/reuse of consumer products to be cost effective they must be designed to be disassembled within six seconds. Lisa Ann Pasquale writes in "Recycling 2.0/Manufacturing" that "Matsushita's Eco Technology Centre... assesses the ease of disassembly and recycling, and reports suggestions back to designers, so new units are easier to process." This makes complete sense;

however, high disposal fees were the motivating factor, thereby justifying the cost of the technology center. What it all comes back to is that financial pressure yields results. In an ideal world, the bottom line would be three pronged and would track not only financial profit but environmental and social profit as well.

Carol Catalano
Catalano Design
Boston

Jeff Stein captures the essence of Ada Tolla and Giuseppe Lignano's creativity ["Raw Material," Spring 2010]. I believe that their firm, LOT-EK, conjures up a special magic precisely because they studied architecture in Italy, where history is embedded visually and physically at every corner.

What emerges from this delightful interview is the opportunity for the highest form of architectural and design creativity to shape a physical environment that fits instead of disturbs a precious and precarious evolutionary process. The framework for our thinking has until recently been too narrow to encompass the hard-wired biophilia we unconsciously carry within us. It's time to let it emerge, to be translated into the building professions and their education, and to free up the same delight in the found object that LOT-EK shows us, this time with the mindset of regenerating value for our planetary home.

Peter Papesch AIA, LEED
Boston
Chair, BSA Sustainability Education
Committee

Editor's note: The architect for the project featured in "Old House, New Episode" [The Lurker, Spring 2010] is H. P. Rovinelli Architects of Boston.

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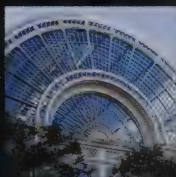
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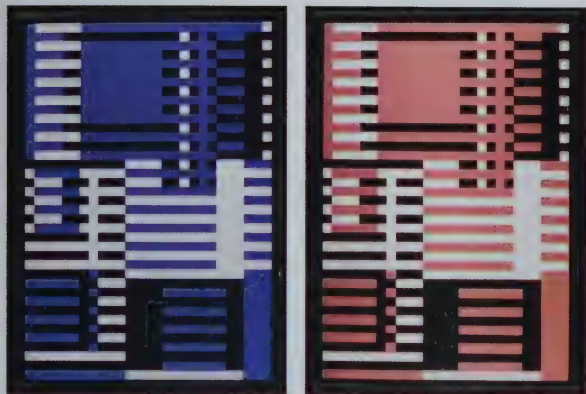
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Upward and Goldrosa, c. 1926, by Josef Albers. © 2009 The Josef and Anni Albers Foundation / Artists Rights Society.

Bauhaus 1919–1933: Workshops for Modernity

Museum of Modern Art, New York City

November 8, 2009–January 25, 2010

www.moma.org/interactives/exhibitions/2009/bauhaus/

The Bauhaus retains impressive cultural significance for an institution that operated for a mere 14 peripatetic years. When Nazi pressure forced closure of the school in its third and final location, many of the teachers and students emigrated westward; a few landed in Boston. Graduates of local architecture schools are the progeny of aesthetic seeds first planted in Weimar Germany.

The pedagogy at the Bauhaus focused on a potent question, one that retains contemporary relevance: to what degree should art engage technology? To draw or not to draw? The dense MoMA exhibition (still available online), packed with sketches, drawings, paintings, photographs, and objects, chronologically traces the Bauhaus' relationship to industrial production as it shifted from a craft-based school to one whose motto became "art and technology—a new unity." An example is a studio exercise in which students created patterns with only the standard keys of a typewriter. The resulting abstract designs (later used for factory-produced textiles) are a wonderful

example of how the machine can be harnessed for creative good. But no matter the cleverness evident in such technoforward work, it is difficult not to be charmed simultaneously by the meticulous, hand-painted color-theory exercises by the students of Paul Klee.

The impressively comprehensive exhibition features work by both instructors and students. The devotion of seminal practitioners to introductory teaching—among them artists Josef Albers and Vasily Kandinsky, architects Walter Gropius and Ludwig Mies van der Rohe—was remarkable at the time and remains so in retrospect. These are the figures who persist, and theirs are the works that visitors want to see; but the student work is equally, if not more, delightful for its confident, experimental exuberance.

Christina Crawford AIA, LEED AP is a practicing architect and urban designer at Utile, Inc., in Boston. She teaches at Northeastern University School of Architecture and serves on the board of the New England chapter of the Society of Architectural Historians.

Havana Revisited: An Architectural Heritage

David Rockefeller Center for Latin American Studies

1730 Cambridge Street

Cambridge, Massachusetts

February 3–June 1, 2010

This exhibition immediately brought to mind a great observation: "In order for

things to remain the same, there must be change." But the Havana in Cathryn Griffith's images tells a different story. Although things have remained the same, there has been no change to the urban fabric, making it seem almost fossilized.

Griffith's urban documentation—a nostalgic then-and-now comparison of vintage postcards with her own modern photographs—captures Havana as a living colonial museum. The photos by themselves would have been simple episodic glimpses of the city, but combined with the postcards, they become a narrative that takes us through time and makes us think beyond the art before us. The social and cultural issues plaguing Havana today, which created the fossilized city in these images, suddenly become the point, which remains frustratingly beyond the reach of this exhibition.

Frank Valdes AIA is an associate at DiMella Shaffer in Boston.

El Morro, Havana. Photo (right) by Cathryn Griffith.



The SHIFTBoston Forum

Institute of Contemporary Art

Boston

January 14, 2010

"What if this could happen in Boston?"

This was the question posed by SHIFTBoston, an organization that challenges designers to think critically about the experience and environment of Boston. Its 2009 ideas competition generated worldwide attention, with more than 6,000 responses from more than 90 countries, finally attracting 142 entries from 16 states and 14 countries. With a full house of 300 (mostly young designers) at the awards "forum" and even more waiting at the door, it was clear that there is widespread interest in the future of Boston and that a shift may already be underway.

The city's renewed interest in connecting residents from every neighborhood with the waterfront was apparent in the number of entries that embraced the waterfront as the city's next frontier. From

barges demarcating the original boundaries of the city to a kayak-sharing commuter system to entire parks suspended over the harbor, many of the ideas recalled Boston's history of expansion into the harbor, but with a new twist: reclaiming it without necessarily infilling. The winning team, Sapir Ng of Tsoi/Kobus and Andrzej Zarzycki of New Jersey Institute of Technology, embraced a mostly unconsidered frontier: Boston's underground. Instead of building up or out, their proposal, "The Tremont Underground Theater Space," ventured into the subterranean and made use of abandoned subway infrastructure, revived as an interactive theater space.

Other proposals took on the challenge of shaping attitudes instead of the cityscape. "Waterline" proposed a city-wide continuous blue line at head height—the presumed future water level after global warming. An honorable mention went to "What the Hell is That?"—a proposal to fetishize Boston City Hall as nail polish, makeups compacts, and other trendy

commodities, merging architecture and cultural production to manipulate the public image of the building.

In a city that increasingly struggles to retain and attract talent despite the many world-class institutions that call Boston home, perhaps a shift in attitude toward design and development is the key. SHIFTBoston brings to the forefront the argument that the city should not be afraid to borrow good ideas that work for other cities, nor be afraid of showcasing a willingness to experiment. As the winning entry highlights, Boston should likewise recognize, advocate, and make full use of what it already has.

Alyson Fletcher, ASSOC. AIA is currently biking across the country with Bike & Build to raise money for affordable housing (<http://bikeandbuild.org/rider/3547>). She was previously co-chair of Common Boston.

Competition entries may be viewed at: www.shiftboston.org.

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Design That Drives Us Crazy

The premise: That driving in Boston is always bad, but in some places it's even worse. Sometimes it's bad design. Sometimes it's bad signage or badly coordinated traffic lights. Sometimes it's dumb policy. Sometimes it's a piece of roadway that was designed 50 or a hundred years ago to handle a much smaller volume of traffic going at much slower speeds. But whatever the reason, certain intersections or interchanges are reliably, inherently nightmarish. These places feel not just ill-conceived but dangerous. They're the places that make drivers grit their teeth and pray.



▲ Photo by Joan Wickersham.

8:30 Cambridge. Driving west along Mass Ave, entering Harvard Square. Goal is to get through the Square and turn up Garden Street.

Travel in right-hand lane to avoid cars double-parked on left.

Now move into left lane to avoid getting trapped in right-lane underpass, while going very slowly to merge with speeding cars coming from behind on another road on the left.

8:32 Waiting at traffic light. Arrow turns green; move forward. But cars to the right of you have simultaneously received a green light; as you try to move right across three lanes of traffic, those cars are equally urgent in their desire to move left across the same lanes.

Blue car abruptly changes lanes and cuts you off.

Bus suddenly cuts from right to left lane heading for underpass.

Cars zoom by in right lane so you can't move over.

Tan car honks at you.

You start, stop, swear, fleetingly imagine a utopian intersection where drivers with conflicting entry and exit points don't all get green arrows at once.

8:33 Your green arrow quits long before the mess has time to unsnarl. Cars coming along Mass Ave from Porter Square now get green light and energetically launch themselves into the mêlée.

8:36 Still in Cambridge. Intersection of Brattle, Mason, and Ash Streets. Cars entering intersection from four different directions, three of which have stop signs. Cars traveling on Brattle toward Harvard Square and curving left onto Mason do not have a stop sign—but the driver waiting at one of the other stop signs has no way of knowing that. He starts across the intersection. Sudden braking, people inside cars looking scared and angry, glaring at each other in self-righteous confusion before driving on.

8:47 Traveling west on Soldiers Field Road in Newton, about to attempt entrance to Mass Pike. Start to make a big turn to the right.

Cars merge in from left.

More cars merge in from another road on the left.

And then a third road of four lanes of fast-moving traffic merges in from left. Those cars are trying to move from the left to the right-hand lanes. You need to get

over from the right to the left.

Now 10 lanes of traffic from at least four different directions are suddenly weaving together and splitting off, a high-speed minuet happening on a very small dance floor.

8:48 A woman in a silver SUV makes eye contact: she will let you cut across. But no, turns out she was just making eye contact.

8:49 Good thing you know to get into far left lane before you reach Mass Pike entrance ramp, because the only sign appears too late to alert anyone who didn't already know which lane to choose.

9:07 Route 95 South, just after the Route 9 exit. Sign announces that travel is permissible in breakdown lane from 6–10 AM and from 3–7 PM on weekdays. Calm, official-sounding tone of sign makes you briefly doubt your suspicion that this is wacko policy.

9:09 At the moment, traffic happens to be fairly light, so no one is driving in the breakdown lane—which is lucky because a broken-down car is parked in it, lights flashing, hood up, owner pacing nearby looking anxious. You don't blame him.

9:12 Get off highway to reverse direction. Get on again; a speeding black car whips very close by you on left, honking. Yikes. It was traveling in the breakdown lane and crossed your entrance ramp at 75 mph just as you were feeling your way up to the highway.

Calm, official-sounding tone of sign makes you briefly doubt your suspicion that this is wacko policy.

9:20 Traffic on 95 North is heavy, moving slowly, except in the breakdown lane, where it's whipping along. A car ahead of you is trying to exit—it needs to speed up to enter the rapid flow of the breakdown lane and somehow simultaneously slow down to safely navigate the curving mouth of the exit ramp.

9:24 Move into breakdown lane, just to

see what driving there is like. A car comes up fast and close behind you, while a slower truck moves up the entrance ramp to your right. Without the usual cushion of the breakdown lane, the diagonals of the merger have been shaved off into an abrupt and unforgiving right angle. The truck merges in front of you and you brake to slow down, hoping the guy behind you has good reflexes.

9:40 Back on the Mass Pike, heading east this time. A chance to experience Exit 17 in Newton/Watertown from the opposite direction. Fiendish. Two lanes of traffic on the exit ramp, merging into four lanes of fast-moving cars sweeping around from the left. You wait for a pause, venture out, and cross several lanes of traffic to get from right to left while other cars move across those same busy lanes from left to right. This is why you would not want to run with bulls in Pamplona.

9:50 Pull off road, park at Whole Foods, get coffee, and wait for hands to stop shaking. Get back on road.

10:32 In North End near Haymarket, trying to get on Storrow Drive heading back toward Cambridge. Remember you once succeeded at this, starting around here somewhere. Follow signs for 93 North, looking for more signs for Storrow Drive West. Suddenly you are on Zakim Bridge heading for Concord, New Hampshire. No idea how that happened (great view of Bunker Hill Monument, though).

10:37 Get off in Somerville at Sullivan Square intending to get back on 93 going in the other direction. No apparent way back onto highway. No signage. Venture under highway and drive for a while, eventually discovering mess of unmarked roads. Decide to turn left on one of them—but it's a good thing you're stopped at a red light, because the road you were about to turn into suddenly fills with oncoming cars, thus revealing itself to be an unmarked one-way street.

10:42 Take another unmarked left and hope for the best. Find yourself on the

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Monsignor O'Brien Highway, which may or may not be good but at least it gives you a moment to breathe. Science Museum is coming up on right. Nice cultural asset for city, but you vaguely remember it can be tough to drive around there though you can't at the moment remember exactly why.

10:44 Oh yes — now you remember.

10:45 You happen to notice a tiny "Storrow Drive" sign affixed to a utility pole, and move back into right-hand lane which has apparently resumed its original function as a highway traffic lane after a brief, quixotic interlude as an entryway to the museum parking garage.

10:50 Getting off Storrow Drive. Unexpected fork in the middle of the exit ramp. Then a "Fenway" sign to the left, and a "Fenway Park" sign to the right.

10:54 Heading up Boylston Street (you think) toward Museum of Fine Arts. Many cars honking. At you? At one another? Arrive at an intersection where

you know MFA is off to the left. A sign tells you MFA is on the right.

You decide to split the difference and go straight ahead.

Heading up Boylston Street (you think) toward Museum of Fine Arts. Many cars honking. At you? At one another?

10:56 Hospitals on all sides. You have no idea where you are or where MFA is, when you suddenly spot a small sign on the right telling you that the MFA is to the left.

11:05 Turning from Fenway onto Charlesgate East. A friend told you that it was always a nightmare trying to get onto Storrow Drive from here, but you follow the signs and have no trouble. False alarm. Proof that while some of these scary spots are universally and unequivocally harrowing, some are more subjectively bad.

11:10 Heading back to Cambridge across the Larz Anderson Bridge, and turning left onto Memorial Drive. Two lanes of traffic, but suddenly the right lane will fill up with parked cars. You know this and so you move into the left lane well before it happens.

But there's another car ahead of you in the right lane, a green station wagon with an out-of-state license plate, and you can't tell if that driver is aware of what's ahead. You have to drive as if that driver is innocent and about to be shocked out of his or her wits, at which point that car will suddenly swerve in front of yours.

Sooner or later he or she will notice those parked cars, but when?

Slow down. Drop back. Wait to see what will happen. ■

Joan Wickersham is the author of *The Suicide Index: Putting My Father's Death in Order* (Houghton Mifflin Harcourt), a National Book Award finalist. Her website is www.joanwickersham.com.

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So, How'd That Work Out?

Updates from the
(water)front

The law is the law.
Play by the rules.
You can't fight city hall.

We tend to think of the legislation, regulations, codes, and policies that govern our lives as a kind of political accretion, each new rule layered onto an increasingly formidable reef of legal hazards. But “codify” does not necessarily mean “ossify.” These regulations are subject to review and change.

Like the men and women who devise them, political interventions are usually well-intended, often smart, and yet frequently flawed. Those addressing water issues are subject to the inconstancies of political and business interests, new technology and scientific advancement, as well as consumer markets and human behavior.

Here then is an update on some significant regulations. Some are successes. Some are works in progress. As for some...well, mistakes were made.

—Elizabeth S. Padjen FAIA

Conservation

Section 10.14.3 of the Massachusetts Uniform State Plumbing Code

In 1988, Massachusetts became the first state in the country to require new toilet fixtures to consume no more than 1.6 gallons per flush. Though one of our state's lesser-known historic achievements, this amendment to the state plumbing code shaped a new standard in water efficiency. With support from Massachusetts Representative Chester Atkins, the 1.6 gpf requirement was incorporated into the national Energy Policy Act of 1992, and municipalities across the country awoke to the cost benefits of replacing inefficient fixtures. (Reducing water use conserves energy as well as water; the treatment and transport of water in the US currently amounts to 56 billion kilowatt-hours annually.)

The idea of adopting a 1.6 gpf standard in Massachusetts was introduced by Amy Vickers. An engineer in her late twenties with an undergraduate degree in philosophy, she joined the Massachusetts Water Resources Authority after a frustrating period in New York City, where shortsighted politicians showed more interest in increasing supply than in reducing demand. Having seen a similar standard adopted successfully at a smaller scale in Glendale, Arizona, Vickers was confident that low-flow fixtures, together with the MWRA's plans for infrastructure repairs and extensive public outreach, could halt the alarmingly steady rise of water demands.

Results were immediate and long-lasting: demand fell below 1970s levels in just three years, and continues to decrease steadily — even with more communities added to the MWRA district — as fixtures are replaced, infrastructure is repaired and upgraded, and industrial water use is diminished. Today, the MWRA reports total annual water system demands that are just two-thirds of what they were two decades ago, with water consumption in Boston down to 1910 levels.

Conservation and efficiency policies are now recognized as astute actions in a fight against rising demand. Last year, Texas and California addressed looming water crises by mandating the use of high-efficiency toilets (HETs) designed for a flush

equivalent to 1.28 gallons. Engineers Bill Gauley and John Koeller have conducted tests demonstrating that many HET fixtures are capable of superior performance, though a newly formed plumbing research group is still assessing whether codes for horizontal drainage piping should be reconsidered.

Gauley and Koeller, "mythbusters" in the field of water efficiency, are also trying to eradicate confusion about the impact of automatic sensors perpetuated by published estimates of gallons saved by installing "automatic, low-flow" fixtures. A recent study logged the increase in water use associated with sensor-operated toilet fixtures at 66 percent. (Aside from wasting water, the "phantom flush" is also known to terrify small children.) Comparison of 1.8 gpm (gallons per minute) manual faucets with 1.2 gpm sensor faucets revealed a 30 percent increase in water consumption with sensors. Because water only comes out at the faucet's maximum flow rate, which is not typical user behavior, sensor-operated and metered faucets are inherently inefficient.

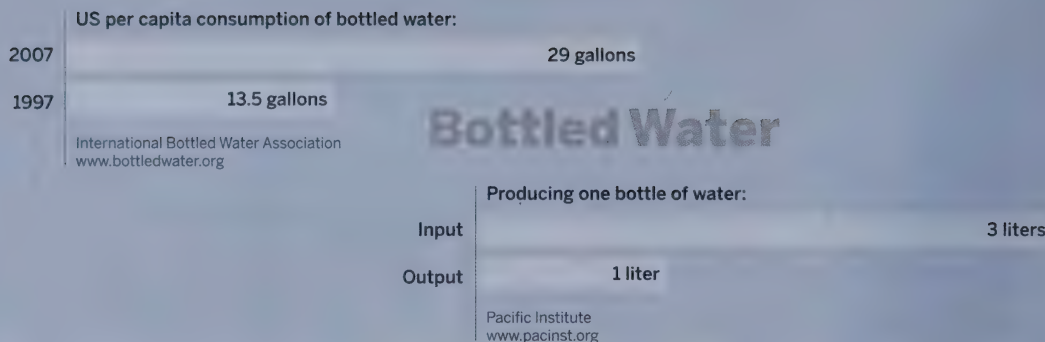
Similarly, while showerheads with flow rates higher than now permitted by code may facilitate slightly briefer showers, the net result is elevated water consumption. To address lingering issues with user satisfaction, the EPA's WaterSense label will soon evaluate showerheads based on performance standards. Apart from specifying a flow rate of 2.0 gpm or less (compared to the standard rate of 2.5 gpm at 80 psi), the program will set standards for spray force, spray coverage, and flow rate across a range of pressures.

But a focus on fixtures can only go so far. Municipalities seeking a broad reduction in water use, indoors and out, are now providing audits and adopting tiered-rate programs based on calculations of anticipated needs. Assigning individual responsibility offers a strong incentive to conserve.

Amelia Thrall, ASSOC. AIA, LEED AP is a designer and educator based in Cambridge, Massachusetts.

Household Water

Average water consumption to wash 12 place settings:		Washing clothes (water per load of laundry):	
Hand	27 gallons	Top-loader	40 gallons
Machine	4 gallons	Front-loader	20–25 gallons
University of Bonn Institute of Agricultural Engineering www.landtechnik.uni-bonn.de		California Energy Commission Consumer Energy Center www.consumerenergycenter.org	



Reuse

Massachusetts Department of Environmental Protection Interim Guidelines on Reclaimed Water (2000)

When it comes to renewable resources, water could be the poster child for recycling. Through a perpetual round of condensation, precipitation, infiltration, and evaporation, H₂O is endlessly renewed and made available again for our use. And use it we do, second only to oxygen as a ubiquitous resource that we take for granted as a basic entitlement.

Our experience and conditioning conspire to convince that water comes in two categories: clean or dirty, fresh or foul, pure or polluted. This prejudice is a costly one, resulting in the use of highest-quality H₂O for flushing toilets and watering the lawn, and countless gallons of additional wastewater diverted from watersheds to expensive treatment facilities. But what is perhaps the simplest strategy for changing this behavior — the reuse of water for non-potable purposes — may be the most controversial.

It is not a new idea. The 18th-century Yin Yu Tang house, built in southeastern China and now on display at the Peabody Essex Museum in Salem, Massachusetts, diverts all roof runoff to cisterns in the courtyard so that it can be used for domestic purposes. Currently an estimated 20 percent of the world's agriculture is produced with reused raw wastewater. Yet in the US, the approved use of "gray water," as the more lightly polluted form of used water is described, is sporadic at best, although the International Plumbing Code now allows it for toilets and underground irrigation.

Here in Massachusetts, old habits are giving way to new behaviors. Interim Guidelines established in 2000 by the Massachusetts Department of Environmental Protection (DEP) allowed water reuse for irrigation of golf courses and commercial

nurseries (for non-food crops); recharging of certain stressed aquifers; and toilet flushing in commercial buildings.

Following the successful implementation of the Interim Guidelines, the state issued new regulations in March 2009 — 314 CMR 20.00 — which established a reclaimed-water permit program overseen by DEP for the uses that had been outlined in the Interim Guidelines. The Massachusetts Plumbing Board has responded to the new regulations by allowing gray-water systems under specific conditions, including: required board approval, devices to prevent contamination of potable water by the gray-water system, identification and labeling to prevent visual confusion of the systems (gray-water piping must be painted purple), and identification of gray water itself through the addition of a non-toxic blue dye.

These incremental steps will likely soon lead to routine water reuse, perhaps eventually extending to residential and agricultural applications. In combination with efforts to limit stormwater runoff by reducing impervious surfaces and installing constructed wetlands, these practices may amount to more than just a drop in the bucket toward maintaining our water resources and protecting critical habitat.

Vernon Woodworth AIA, LEED AP represented the AIA as a member of the International Code Council's Sustainable Building Technology Council, which recently completed work on the International Green Construction Code. He helped draft requirements for stormwater runoff, rainwater reuse, and the installation of green roofs.

Management

Arizona's Groundwater Management Act of 1980

Back in the 1970s, a number of people in Arizona became very concerned about water. It wasn't just that the growth patterns at the time were draining the ancient aquifers under the desert. The population projections foretold even more water use, with no additional supply in sight, unless usage was tightened. Facing up to this dead-end scenario prompted passage of the Groundwater Management Act of 1980, heralded as a state-of-the-art approach in identifying water supplies and requiring conservation that would head off groundwater overdraft and ensure a "safe yield" through 2025 — in other words, to make sure the place didn't run dry.

Although New Englanders might question the wisdom of so much expansive growth in the middle of a desert in the first place, Arizona's experience tackling water-resources management holds some valuable lessons for this, and indeed any, region. Recent critiques suggest that it's necessary to be continually vigilant through the boom and bust of economic cycles. Being prudent with water requires not only regulatory action, but also a cultural transformation by both consumers and developers, who now have many more tools to make conservation part of their building plans.

Water and human settlement go hand-in-hand everywhere in the world, but especially so in Arizona. Snowpack from the state's mountains feeds into four rivers, but that water quickly evaporates in the desert, which only gets 8 to 14 inches of rainfall a year (New England receives 35–55 inches of precipitation). Early settlement relied on pumping water out of the underground aquifers, and irrigation canals and projects like the Roosevelt Dam, 80 miles east of Phoenix. The state also engaged in an ongoing brawl with California over rights to water from the Colorado River. Through the 1960s and '70s, sprawling development patterns required more water from aquifers than could possibly be restored, and more from dams and rivers. Following the \$4 billion Central Arizona Project Canal, which delivered water from the Colorado, state leaders, led by then-governor Bruce Babbitt, began to focus on the demand side — namely, the 1980 legislation restricting the amount of groundwater that could be used. The statute led to the creation of the Arizona Department of Water Resources, charged with monitoring "withdrawals" and conservation targets for agricultural, municipal, and industrial users, and enforcing the mandate that new subdivisions have future renewable supplies of water.

What followed next is a cautionary tale for New England policymakers. The quest for loopholes was almost immediate. Farmers, for example, could take land out of production and bank or trade their water rights. Some complained that the baseline for water use was too low, and restrictions phased in too slowly. It was not clear how violations would be penalized, which undermined the authority and intention of the regulations. Municipalities received funding for conservation programs regardless of how much water they actually saved. A requirement that new development show a 100-year water supply was significantly altered due to pressure from real-estate interests and the development community. "The conservation goals of the law have been systematically weakened by legislative amendments, consumer resistance, and timorous regulators," writes Arizona State University professor Paul Hirt in the July 2008 issue of *Environmental History*. A sustainable future water supply, he says, is "a mirage."

Jim Holway, director of Western Lands and Communities, a joint venture of the Sonoran Institute and the Lincoln Institute of Land Policy, sees things more optimistically. "We have three decades of experience in comprehensive water management programs, in the face of limited and highly variable water supplies and changing demands," he says. The 1980 law has been augmented with requirements for an assured water supply for growth, groundwater recharge projects, banking water underground for future shortages, and the reuse of treated wastewater. The state is now turning to the next big curve ball — the inevitable impacts of climate change.

Success means an evolutionary process, says Holway, who was formerly assistant director at the Department of Water Resources. That includes identifying issues as they come up, measuring and reporting water use to facilitate planning, and quantifying water rights and permits to provide incentives for conservation. Only by managing all sources of water — groundwater, surface water, reclaimed wastewater, and stormwater — can a place like Arizona avoid going dry.

Anthony Flint is director of public affairs at the Lincoln Institute of Land Policy, a think tank in Cambridge, Massachusetts.

Virtual Water

	One ton of steel	62,600 gallons
	One ton of cement	1,360 gallons
	Charlotte Harbor National Estuary Program www.chnep.org	
	Water required to produce:	
One gallon of paint	13 gallons	
One board-foot of lumber	5.4 gallons	
	Charlotte Harbor National Estuary Program www.chnep.org	

Public Access

Chapter 91, the Massachusetts Public Waterfront Act

The year 2010 marks the 20th anniversary of the Massachusetts Department of Environmental Protection's regulations implementing Chapter 91, the Public Waterfront Act. Since 1990, much has been learned about development along urban waterfronts, especially Boston Harbor, and it is instructive to take a look at the successes and shortcomings of the program as originally envisioned.

Chapter 91 introduced new requirements for both public access and public ground-floor uses; its greatest success has been to demonstrate the value of opening previously inaccessible waterfront areas for the enjoyment of the public. Real estate developers have become some of the strongest advocates for public access, recognizing the inherent value of an active, public waterfront.

While the creation of public access has been a resounding success, the development of public uses has had a mixed track record. The Chapter 91 regulations require that Facilities of Public Accommodations (FPAs) be located on the ground floor of buildings that are within 100 feet of the shoreline; buildings on Commonwealth tidelands must dedicate the entire ground floor to FPAs. The definition of FPAs encompasses retail, restaurant, and hotel uses, along with other public uses such as museums, art galleries, and cultural institutions. The public-use requirements were based in part on the early work of the City of Boston in developing its Harborpark zoning. The City developed the idea of requiring at least one public use in each waterfront project in order to guarantee that public access would be achieved without an actual taking of private rights.

The Chapter 91 framers expanded this concept to require that most or all of the ground floor be public. But, with the exception of hotel projects, most waterfront developers have been unable to achieve full compliance, particularly in low-density and residential projects, such as in the Charlestown Navy Yard. Urban planners have learned that public uses are more successful when concentrated around public squares and in dense retail districts with high pedestrian and vehicular traffic. Waterfronts, however, have four inherent disadvantages

in attracting public uses: the public can be drawn from only 50 percent of the surrounding area, since one half of the nearby area is the harbor itself; parking is strongly discouraged and expensive because it must be built below grade; there is virtually no pass-by traffic; and density is limited by Chapter 91 height and open space requirements. It is therefore not surprising that the vision of interior FPAs has not been successfully realized, and that storefronts have remained vacant for many years. Even Rowes Wharf, the model of waterfront development and public programming, has been unable to fully develop its ground floor with public uses.

So what is the fix? Waterfronts can never overcome the obstacles presented by their location at the "edge" rather than at the center. We must carefully consider what is realistic. New Urbanists have demonstrated that streets can feel public, even in exclusively residential areas. Form-based codes have shifted the focus toward the "feel" of the architecture and the place, and away from regulating specific land uses. These planning concepts move us away from the traditional zoning standards that were the underpinnings of the Chapter 91 regulations. We need to understand that public ground-floor uses are less important to the success of a waterfront project than the public use of the exterior spaces.

In an active, ever-changing urban environment, 20 years is a long time to go without rethinking the rules. It is time to take a fresh look and consider whether there are better solutions.

A longer version of this story, including the history of waterfront regulation in Massachusetts, is available at: www.architectureboston.com.

Jamie M. Fay AICP is the founder and president of Fort Point Associates in Boston, an urban planning and environmental consulting firm, where he has been principal-in-charge and lead consultant for a variety of waterfront planning and development projects. He is also vice president of The Boston Harbor Association.

North America and Japan

Europe

Sub-Saharan Africa

Daily per capita use of water in residential areas:

92 gallons

53 gallons

3–5 gallons

World Water Council
www.worldwatercouncil.org

Consuming
Water

Distributing Water

2005 US water withdrawals by category:	
Thermoelectric power	49%
Irrigation	31%
Public supply	11%
Industrial	4%
Aquaculture	2%
Mining/Domestic/Livestock	3%

US Geological Survey, Summary of Estimated Water Use in the United States in 2005

Groundwater

The Boston Groundwater Conservation Overlay District Boston Zoning Code Article 32

Many Bostonians became aware of the danger that lurked below only during the early 1980s, when a church and other buildings on the flat of Beacon Hill began to crack because low groundwater levels had destabilized their foundations.

Groundwater continues to be a challenge in Boston and elsewhere, as levels fall below the tops of the wood piles that support buildings, allowing the wood to rot and threatening the structural integrity of what is above ground. And efforts are growing, both in kind and geographically, to address the issue.

In 1986, in response to the apparent crisis, the Boston City Council created the Boston Groundwater Trust. Revived by Mayor Tom Menino in 1997, the Trust monitors groundwater levels and recommends solutions — a mandate strengthened by the adoption in 2006 of Article 32, creating Boston's Groundwater Conservation Overlay District (GCOD). The district extends from the Fenway through the South End, Back Bay, and Chinatown, skipping over downtown's terra firma but including smaller districts encircling downtown, such as the Bulfinch Triangle, the wharf areas along Commercial Street in the North End, and the Fort Point Channel area.

The GCOD is a success, according to Elliott Laffer, executive director of the Boston Groundwater Trust. Its regulations apply to excavation-related construction and to rehabilitation or expansion (of any structure) of an area greater than 50 square feet. It requires a study to determine the effect on area groundwater, and installation of a recharge system. A homeowner in the Back Bay doing a gut rehab, for example, has to capture the equivalent of roof water from a one-inch rain and drain that water back into the ground. Complying with Article 32 typically costs several thousand dollars — compared to the hundreds of thousands of dollars it can cost to replace the tops of rotted piles and restore a foundation. Since the creation of the GCOD, more than 150 cases have been through the Zoning Board of Appeals, which issues permits, and there has been almost 100 percent compliance. Laffer also reports that a new, ongoing study by Tufts University researchers has found that the recharge wells

installed since 2006 have resulted in a small but measurable improvement, which will increase as more wells are put in.

Apparent success has spawned ambitious imitation. Legislation was filed during the last session on Beacon Hill with the intention of protecting similarly endangered buildings elsewhere in the Commonwealth. But, because of the potentially enormous cost of remedies and uncertainty about where and to what extent the problem exists outside Boston, that legislative proposal will be rewritten and filed in the next session, according to one of the sponsors, Democratic State Representative Marty Walz of the Back Bay. The legislation included a provision for tax credits for homeowners who install recharge systems, assistance that will now be provided under another bill, filed on behalf of the City of Boston. It also would have required that governmental bodies remedy groundwater depletion caused by tunnels and other infrastructure under their control, an unrealistic demand in today's fiscally challenged economic environment.

Some infrastructure repairs are already under way. The Boston Water and Sewer Commission has had an inspection and replacement program for several years to address the problem of broken sewer pipes that drain groundwater out from under neighborhoods along with sewage. A recharge system was installed in the Fenway, and the Massachusetts Water Resources Authority is currently replacing pipes in East Boston.

A central element of the proposed statewide legislation is regulations on sump pumps, Walz said, to keep water that is pumped out of structures from going into the sewer or storm overflow system and to direct it to replenishment of the groundwater table instead. "The goal is preventing groundwater depletion," she said, adding that the GCOD in Boston is good but doesn't go far enough. "We've got to get government to repair infrastructure."

Tom Palmer is a consultant specializing in public relations and strategic and crisis communications. He formerly covered real estate and development for *The Boston Globe*.

Mapping the Floods

They're from FEMA and they're here to help. Really.

They're from FEMA
and they're here to help.
Really.

Detail, Flood Insurance Rate Map, Middlesex County, Massachusetts (revised preliminary, May 29, 2008), showing flood zone and flood plain boundaries in the Town of Arlington and City of Cambridge. Courtesy, National Flood Insurance Program, Federal Emergency Management Agency.



by Elizabeth Stoel and Meera Deean

In 2003, the Federal Emergency Management Agency, perhaps best known for its response to the New Orleans floods of 2005, began remapping flood plains nationwide, digitizing and updating elevational data that had remained on government maps since the 1970s, and generating new data for densely populated and high-risk areas. This large-scale government effort has several aims: to determine what properties should carry flood insurance, to produce more-accurate assessment tools for flood hazard, to create maps that can be tied to GIS databases and used as planning tools, and, at its core, to guide future development away from high-risk or environmentally sensitive areas.

As the new maps have been released over the past year, they have had sometimes dire financial and design consequences for landowners, developers, and municipalities. Being in a flood zone increases construction and insurance costs substantially, and residents and business owners in a flood zone, whether it is classified as high risk or not, are required to buy flood insurance if they have a federally backed mortgage. Government officials take the maps into account when they establish zoning and building standards, plan infrastructure and transportation, and prepare for and respond to floods. In Massachusetts, about 50,000 properties carry flood insurance, a strong indicator of the number in flood zones.

At their best, the new digital maps factor in topography, hydrology, erosion, and changes in population density, but they ignore climate-change projections. Flood-prone areas are generally defined by one of two hazard levels: 1-percent-annual-chance flood (also known as the 100-year flood) areas and

0.2-percent-annual-chance flood (also known as the 500-year flood) areas. FEMA defines a flood as a condition where two or more acres of normally dry land or two or more properties are inundated by water or mudflow. The previous paper maps were often based on 1960s- and 1970s-era US Geological Survey 10- and 20-foot-interval contour maps, with additional surveying by engineers performed only in those areas historically known to be flood prone.

The maps do not become official until the public-appeal periods expire and FEMA releases them in their final form, but their impact already is being felt across the Commonwealth even in this preliminary phase. For any new construction or substantial improvement (work totaling more than 50 percent of the purchase value of the property), developers or owners are required to build to current flood-zone standards, which usually means raising the lowest level to above the flood level. In Hull, a builder renovating an old rooming house was told that, in order to go forward with the work, he would have to elevate the house by 3 feet and place it on piers. In Provincetown, an estimated 600 properties, including the Town Hall, are being reclassified. In the Alewife area of Cambridge, more than 100 properties have been newly determined to be in a flood plain. In Newburyport and Salisbury, hundreds of properties on both sides of the Merrimack River are affected, and town officials are challenging the FEMA flood map designation. The maps have gone into effect in Suffolk and Bristol counties, and about 80 homes in the Savin Hall neighborhood of Dorchester are now officially in a flood plain.

The impact of the new flood plain maps is already being felt across the Commonwealth.

Following the law of unintended consequences, even structures intended to prevent flooding can subject nearby property owners to FEMA scrutiny. Dams, levees, dikes, and hurricane barriers need to be certified as meeting federal standards. Without this certification, properties adjacent to these public works are officially considered flood prone. In Chicopee, a 7-mile-long riverfront levee system protects the town from floods, but it has to be repaired and recertified by FEMA, at a cost of roughly \$6 million, or approximately 5,000 properties will be classified as being in a flood plain. New Bedford's hurricane barrier, a 3.5-mile-long steel and stone structure from 1966, will have to be recertified as well, and city officials are struggling with how to pay for the necessary engineering studies and recertification of the hurricane barrier. (Similarly, in parts of New Orleans, map certification will be delayed until 2011 due to the ongoing levee reconstruction project.)

As FEMA's Mike Goetz, chief of New England Risk Analysis Branch, explained, the National Flood Insurance Program (NFIP), of which FEMA flood maps are an integral and necessary part, "tries to make risk management and assessment a part of the everyday life and calculus of communities." The program, established in 1968, encourages communities to exceed the minimum requirements for flood plain management — building at higher elevations and buying up properties in high-risk areas to create open space. Towns and cities can participate in the NFIP's voluntary Community Rating System and earn points that reduce their flood insurance premiums. Goetz described its intentions: "We are trying to incentivize communities and show that doing these good things can actually not only improve the environment, but also that those who have to purchase flood insurance won't be hit as hard financially." Richard Zingarelli, the NFIP Coordinator of the Massachusetts Department of Conservation and Recreation, commented, "The flood insurance program does not want to burden homeowners, but we don't want someone to take a summer cottage on a barrier island and turn it into a mansion."

Thus far, FEMA mapping methods have not been without controversy. At this time, 92 percent of the US has been mapped by the agency, but only 21 percent of the country has maps that fully meet FEMA's own data quality standards, according to a recent report from the National Research Council. The report, which the Research Council produced at the request of FEMA and the National Oceanic and Atmospheric Administration, argued that the agency could more accurately determine flood risk with newer mapping technologies such as LIDAR (Light Detection and Ranging), which measures elevation using aircraft-mounted lasers. Even more significantly, it noted that the maps must be continually updated to reflect natural and development-related changes.

The findings of the National Research Council point to a larger issue lurking in the muddy waters of the \$1 billion FEMA project. Flood plains are dynamic entities, constantly shifting, with every new development producing runoff and

erosion capable of impacting rivers and streams for many miles downstream. Just as the original FEMA flood maps of the 1970s were intended to be revised regularly but instead were left in place for 30 years due to the exorbitant cost of sustaining a massive, ongoing, nationwide mapping project, the new maps — already less accurate than they could be due to the reuse of outdated maps — will become increasingly inaccurate as time goes by. According to Zingarelli, "The intent is for the mapping to be a continual, ongoing process," but this depends on funding from Congress. The maps' inaccuracy over time will be accelerated by climate change, as sea-level rise (which some current predictions put at 6 feet by the end of this century) will affect not only shoreline sea levels, but also inland river and stream beds and hurricane frequency and severity.

To address these issues, FEMA has launched the next phase of its mapping project: Risk MAP (Mapping, Assessment, and Planning). It has begun to use LIDAR in coastal areas and along rivers and levees to produce more accurate maps, and now has fairly extensive data for parts of New England. As Goetz explained, "Risk MAP is being used to plan mitigation activities: it might mean purchasing flood prone areas (as a community or city or region), or elevating buildings. We're not trying to add levees and dams. We're trying to do fairly soft mitigation techniques with less impact on the environment." In addition, FEMA is beginning to think about stormwater management as an issue that extends far beyond the flood zone itself, taking "a more comprehensive and holistic look at what's happening in a watershed."

The proactive, watershed planning approach FEMA is advocating suggests that, in order to keep up with the changing landscape, perhaps it is time to consider new, alternative modes of occupying the water's edge that are capable of withstanding change and water infiltration. Architects, engineers, and landscape architects may be able to provide guidance and insight into the issue. American Institute of Architects' Latrobe Prize winners Catherine Seavitt, Guy Nordenson, and Adam Yarinsky, the co-authors of the forthcoming book *On the Water: Palisade Bay*, have begun to investigate new ways of building on the waterfront. In their publication, they introduce the concept of "resilience," a strategy focused on soft infrastructure such as constructed islands, reefs, piers, and wetlands that can absorb the impact of natural disasters. (Their work inspired the *Rising Currents* project and exhibition at the Museum of Modern Art.) As Seavitt explained, "Reframing the debate can create openings for action.... It is interesting to think that you can design something in such a way that it becomes beautiful, or a great amenity to a community, and somehow goes beyond the arguments or the entities that are there. More than just a strategy for mitigation or adaptation, it's giving something back that's even better." ■

Elizabeth Stael is a writer and designer in New York City.
Meera Deean is a designer in Cambridge, Massachusetts and a publication consultant.

Thank You.

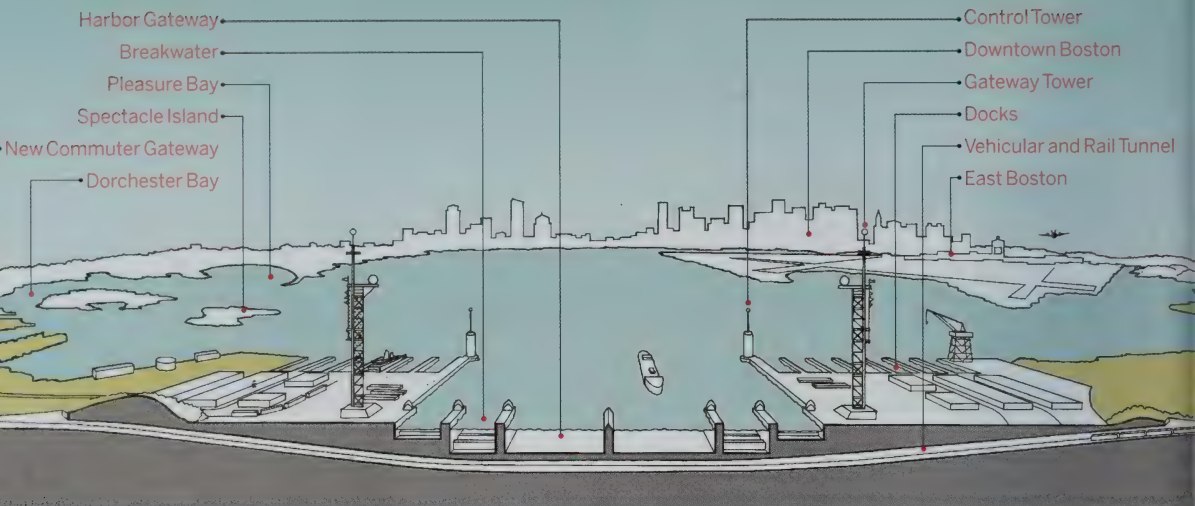
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THE HIGH TIDE OF OPPORTUNITY



Above and below: Proposal for Boston Harbor Barrier, 1988. Antonio Di Mambro + Associates.

Working with water is a lot better than working against it.

by Hubert Murray FAIA, RIBA and Antonio Di Mambro FAIA

In the space of four centuries, Boston has increased its land area by 39 times, from 1.2 square miles in 1630 to 48 square miles today. The entire area of the city is now 90 square miles, of which 54 percent is land and 46 percent water. Over the past century, the sea level has risen a little over 10 inches. By a conservative estimate, it will have risen a further 30 inches by 2100.

Why Does This Matter?

Boston, no less than Amsterdam, is a water city. In topography and climatology, as in history and culture, the past is prologue. If, as forecast, there is a significant rise in the level of the ocean, the expansionist narrative of the city's development will be reversed so that by the year 2100, absent immediate and radical action, Bostonians will be revisiting the shoreline of the 1880s.

Boston, much like other coastal cities, has become increasingly aware of the challenges that sea-level rise poses for both existing and future development and the choices to be made — technical, economic, and social. In 2009, the San Francisco Bay Conservation and Development Commission held an international design competition for ideas responding to sea-level rise in San Francisco Bay and beyond. This year, the Museum of Modern Art and PS1 have joined forces to address the challenge of sea-level rise as it would affect New York City: project proposals by architects, artists, engineers, and others are the subject of a workshop and exhibition, *Rising Currents*. As stimulating as such events may be for ambitious designers, without political leadership, they are simply tinkering at the edge. To understand the gravity of the situation, imagine a replication of the inundation caused by Hurricane Katrina visited upon every coastal community in the United States. The tragedy of New Orleans in 2005 laid bare not only the vulnerability of the city's physical infrastructure and its critical part in the economy of the nation, but also the social inequities sustained within that fragile crucible.

Facing the Facts

Published jointly by Allianz, a global financial services provider, and the World Wildlife Fund, *Major Tipping Points in the Earth's*

Climate System and Consequences for the Insurance Sector provides the most recent evaluation of the effects of climate change and the likely effects on the insurance industry. Combined sea-level rise is one of four critical areas addressed in the report, with a focus on exposed assets in port megacities and specifically those on the northeast coast of the United States.

The financial stakes for Boston are not trivial. Assuming low and high projections of a 20-to-26-inch rise in sea level by 2050 (by the time today's infant is in mid-career), the report projects an "exposed risk" to property damage and consequential loss ranging from \$409 billion to more than \$460 billion (think of 20 Big Digs or half the cost of the Iraq war).

In trying to imagine how such a flood might look and feel in Boston, there is some instruction in looking back to the flooding of Paris in 1910. Weeks of heavy rain and swollen watercourses upstream caused the Seine to overflow its banks and submerge the city, including the Île de la Cité and Notre Dame. This had happened 250 years earlier, in 1658, but the difference in modern Paris was that the flood water found new conduits in the sewers laid by Haussman and in the recently constructed Metro lines. So in addition to filling the cellars, the floods permeated the underground infrastructure of the city, water gushing in at every orifice, issuing forth into major railway stations such as the Gare D'Orsay and bringing the city to a halt.

Transpose this scenario to Boston. A relatively modest 12-inch rise in sea level is projected to happen, at the latest, by 2046 and, at worst, by 2016, a mere six years from now. Combined with a stiff northeaster of some days' duration, the waves of the Atlantic are likely to top the threshold of subway stations such as Aquarium and South Station and to rush down the access ramps of the Central Artery and the Tip O'Neill tunnel to Logan Airport. In most readers' lifetimes, and within the space of a few hours, high tides, aided and abetted by a full moon and high winds, could drown the modern city of Boston in the bathtub of the Atlantic. The floods of February 1978 (the "Great Blizzard") and October 1991 (the "Perfect Storm") not only presage the magnitude of what can be expected, but as "extreme events" they are also predicted to occur with increasing frequency.

What Are the Choices?

There are two choices before us as a city and as a country: to do nothing (or too little, too late); or to do what has to be done, and fast. Contrary to the conclusions of the *Tipping Points* report, damage to property would in some sense be the least of our problems, the greater being social abandonment, as we have seen in New Orleans.

Consider the do-nothing or “proceed cautiously” approach. Absent government intervention, decisions will be left to individuals and corporations. Some may choose to ignore the warnings, some may take adaptive measures, and others may choose to move inland out of trouble. And some, the poor, will have no choice at all except to bear witness to a generation of disinvestment followed by a catastrophic failure of the infrastructure. In other words, to do nothing is to make an undemocratic and unjust choice. Every man for himself and let the devil take the hindmost is not a strategy — it would be an abdication of leadership and social justice.

This leaves us with having to do something and, if the facts are faced, doing it fast.

What Are Others Doing?

While other cities and metropolitan areas have already taken action, it is worth noting that they have also taken time to accomplish their goals. The most common form of protection is the flood barrier. The floating barriers of Venice will protect the lagoon from storm surges of up to 10 feet. With completion scheduled for 2012, the project has been 25 years in the making.

If Bostonians want to preserve their quality of life for the next generation, they had better act now.

London's Thames Barrier was a mere 10-year project, completed in 1984 — but in response to the devastating floods of 1953. The Delta Works in the Netherlands is a series of 250 miles of dams, dikes, locks, and barriers started in 1950, accelerated after the same North Sea flooding of 1953, and completed in 1997.

The *Dutch Delta Commission Report* of 2008 is a deeply impressive document outlining the next phase of that country's defenses through the year 2100. The commission spells out and embraces principles of humanism and sustainability as fundamental values driving its recommendations, committing an average of \$2 billion per year through the end of this century.

What Can Boston Do?

Climate scientists and actuaries have spelled out the probabilities and the consequences of sea-level rise for metropolitan Boston. Other port cities faced with similar challenges have shown us a range of strategies that are transferable to this city. We have learned from these examples that it takes a generation, say 35 years, to see a major civil project through from inception to completion. Within that span, by 2045, the water level of Boston Harbor will have risen somewhere between 12 and 36 inches. If, like the Dutch, Bostonians want to preserve and enhance the quality of life that

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they have enjoyed to bequeath to the next generation, then they had better act now.

Meeting this challenge requires forceful and visionary leadership at all levels of government to articulate a strategy that looks decades into the future. It is also clear that Boston cannot face this alone but must find common cause, nationally, with other coastal cities and towns.

We propose three parts to an effective strategy to "work together with water," as the Dutch have put it:

■ **Articulate the Vision.** The crisis of sea-level rise obliges us to reexamine the value of the city as the crucible of our economy, our culture, and our community. While Boston may be a world center for medical research, the city is also a leader in social inequality. A vision for preemptive reconstruction is an opportunity to right that wrong. In the words of Governor Winthrop, "the only way to avoid this shipwreck and provide for our posterity...we must be knit together in this work as one man."

■ **Establish the Scale.** Antonio Di Mambro's 1988 scheme for a protective harbor barrier running from Quincy to Winthrop is as important for establishing the scale and complexity of the response as it is for its physical vision. This multi-layered proposal combines a tidal-surge barrier, reconfigured harbor facility, transit line, highway, reclaimed land, and industrial, commercial, and residential redevelopment.

It is an infrastructure that both protects the present and promotes the future.

■ **Act Now.** With a clear vision and a long-term goal, there are myriad actions that can be undertaken immediately: protect highway and subway entrances; raise the Harborwalk and create seawalls; establish an elevated datum for buildings; relocate electrical and mechanical equipment out of basements and above the flood levels; and develop storm-surge reservoirs with windmill pumping stations in the lowlands of the South Boston seaport.

The threat of sea-level rise is not immediate but it is urgent. The idea is not to respond to disaster but to preempt it. The challenge is not to succumb to fears (of inundation, decline, or increased taxes) but to see opportunities (of employment, urban revitalization, and social equity). Viewed with vision and discipline, sea-level rise presents the opportunity of a generation to refloat the city, its economy, and its people. ■

Hubert Murray FAIA, RIBA is manager of sustainable initiatives at Partners HealthCare in Boston.

Antonio Di Mambro FAIA is president of Antonio Di Mambro + Associates in Boston.

An expanded version of this story, including a slideshow and bibliography, is available online at: www.architectureboston.com.

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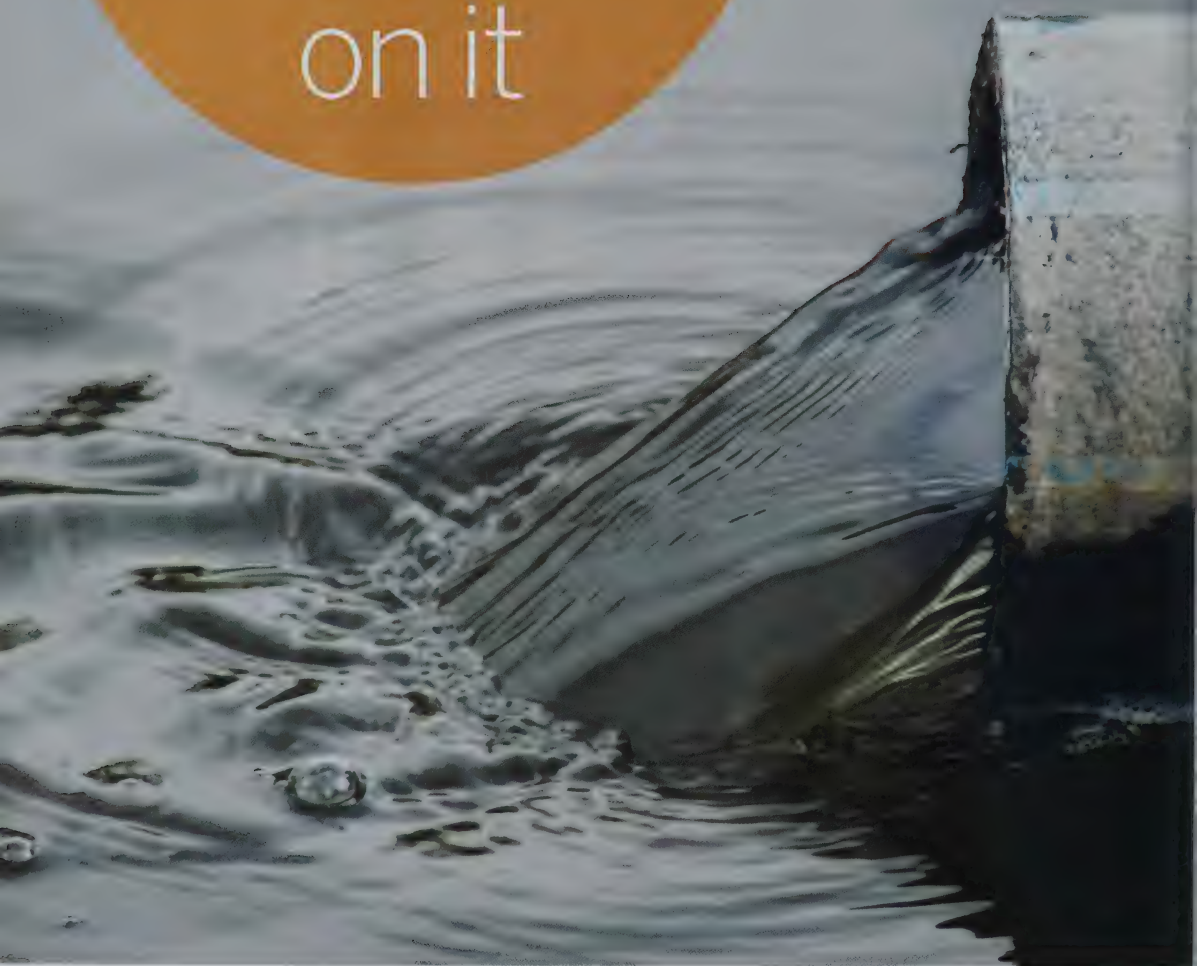


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▲ Photo © Steven Pike | Dreamstime.com.

It's time to think of stormwater as a natural resource. Low Impact Development (LID) offers an alternative to old drain-and-dispose techniques.



by Sara Cohen

New Englanders do not generally think about water scarcity when they look around. Massachusetts receives about 45 inches of precipitation annually — an abundant water supply by national standards. In fact, people are likely to be concerned about too much water, especially when managing stormwater. Over the last century, as development grew more intensive, both in urban centers and suburban shopping areas, the major stormwater problem was how to get water off surfaces during major storms. It was, essentially, a waste-disposal problem. Accordingly, codes, technologies, and standards of practice all coalesced behind methods of moving stormwater offsite, quickly and in large quantities.

By the 1980s, people began connecting downstream flooding, erosion, and pollution problems with the high volumes of stormwater being flushed off developed landscapes. In response, new codes and regulations were established to reduce “peak flows” during storm events. Artificial ponds and other detention structures were built to temporarily store stormwater during heavy rains and release it at a pace that caused less flooding and erosion and filtered out some of the pollutants. These centralized structures relied on networks of drain pipes to collect the runoff from across the property.

Over the last decade, however, concern has been raised about stormwater's role in a different problem: some of our rivers, streams, and wetlands are exhibiting new, dangerously low water levels between storms. In the Northeast, groundwater is the critical component of streams that enables them to be perennial (continuing to flow during dry weather). Groundwater is water contained in saturated layers of soil and bedrock below the land surface. Where these saturated layers intersect the surface of the land, water seeps out and either pools on the surface, forming wetlands, or runs downhill, forming streams. The frequent replenishment of groundwater by precipitation (“groundwater recharge”) enables a continual feed to streams (“baseflow”).

However, when forests and fields are replaced with roads,

buildings, and parking lots, rain and snow have fewer places to soak into the ground. The proficient flushing of stormwater and meltwater off vast areas of pavement — a point of pride for engineers for decades — is now understood to contribute to a drop in groundwater levels. Hydrologists have long understood this connection, but as it has become clear to a wider audience, the importance of groundwater recharge has come to the fore of Massachusetts water policy. Suddenly, the paradigm of treating stormwater like waste is turned on its head. How do we treat stormwater coming off our built landscapes like the important resource it truly is?

Enter LID

Some answers come from looking back at how stormwater was managed before the emphasis on centralized collection. Picture a rural road — no curbs, no catch basins, no detention ponds. The road is simply crowned to shed water off to the sides, into the trees, shrubs, or grass. In retrospect, we call this, quaintly, “country drainage.” The two factors that make this design effective at groundwater recharge are decentralization and the use of planted areas as stormwater receptacles. Decentralizing the places where stormwater is directed makes maximum use of pervious area for recharge. Plants help keep soils loose, which aids infiltration. As it turns out, soils and plants are at least as good at filtering out pollutants as most structural devices designed for this purpose.

The problem, of course, is that this type of design becomes difficult to duplicate when development intensifies and the ratio of paved to unpaved surface increases significantly. But with some design and engineering ingenuity, these older practices form the underpinnings of a new approach to land development called “Low Impact Development” (LID): minimize the area of impervious surface (through cluster designs, narrower roads, shared parking areas, smaller setbacks); use permeable materials for paving (such as porous asphalt and grass pavers); and use open, decentralized planted drainage

instead of curbs, catch basins, and detention ponds.

In greenfield development (conversion of forests or fields to developed use), the LID process begins by characterizing a site's natural grading, laying out a design that uses existing low-lying planted areas for stormwater collection, and minimizing land disturbance overall. Avoiding soil compaction by heavy construction equipment is particularly important, to retain permeability of the soils. This approach contrasts with the conventional practice of beginning a project by clear-cutting and grading a site down to the known quantity of a flat, blank slate. It also means that LID projects are inherently harder to replicate in cookie-cutter fashion. This can add time and expense in the design phase, but often saves money in infrastructure and materials costs during construction. In redevelopment projects, the LID approach may have to rely more on imported soils, newly planted areas, and conversion of pavement to permeable alternatives in order to increase groundwater recharge.

In both greenfield and redevelopment contexts, studies comparing the cost of LID to conventional approaches attempt to balance the higher costs of design and specialized materials often associated with LID against the higher costs of stormwater infrastructure, land alteration, and overall area of impervious surface often associated with conventional development. A recent study from the US Environmental Protection Agency demonstrated that, project-for-project, the LID approach can usually hold its own from a profit perspective and is frequently a cost advantage for developers. As material availability, design

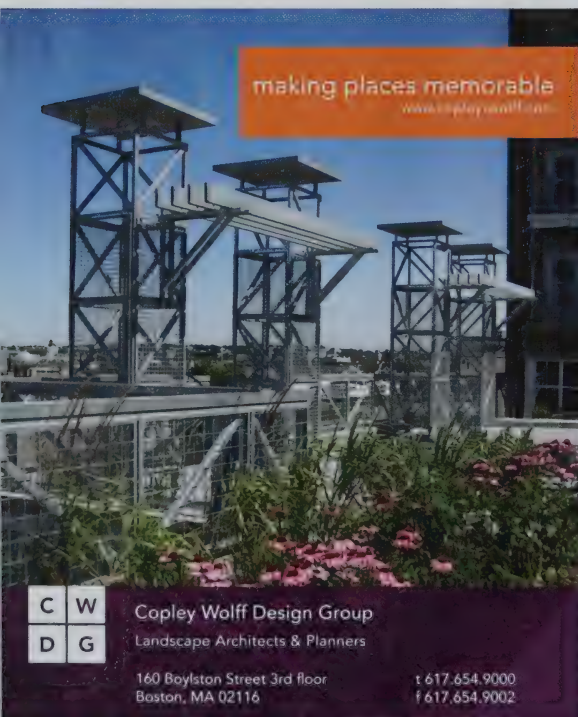
know-how, and consumer awareness about the environmental advantages of LID expand, these cost advantages can be expected to grow.

However, LID developers currently face an additional set of hurdles that, in Massachusetts and elsewhere, can trump these advantages. They often have to factor in increased project costs associated with obtaining waivers from local boards and conducting sometimes extensive engineering studies to demonstrate to local boards and officials the advantages of the LID alternative over the "by-right" approach dictated by codes.

In recognition of the substantial obstacles posed by existing laws and regulations, Massachusetts state government has been working with stakeholders over the last several years to revise state stormwater regulations to promote LID, implement incentives, and fund demonstration projects. Government agencies have also been working with nonprofits and private-sector advocates to develop educational materials and provide technical assistance to local communities interested in becoming more LID-friendly.

Next Steps

Outreach efforts, especially those targeting municipal boards and decision-makers, will remain important, as Massachusetts land-use practices are still primarily determined at the local level. Simultaneously, general education is needed to help shift the public aesthetic away from some of the conventions that have come to characterize typical development, such as large lots and setbacks, wide roads, and extensive curbing.



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A recent study demonstrated that the LID approach can usually hold its own from a cost perspective and is frequently a cost advantage for developers.

Perhaps just as important, however, is pursuing answers to some of the outstanding scientific questions about LID — especially those that might refine the message itself. How significant are impervious surfaces compared to other factors contributing to low flows in streams and rivers, such as over-pumping of groundwater wells and structural barriers such as dams? Are there places or conditions that are more and less appropriate for the LID approach? How will various LID techniques function in the extreme climate conditions of New England? And perhaps most importantly, how can we be sure that we are not inadvertently creating new problems as we are fixing the old, much as we discovered with the stormwater management philosophies that drove development through most of the 20th century?

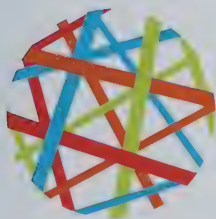
New studies are starting to address some of these questions. For example, a recent state-funded analysis by the Horsley Witten Group (with Bridgewater State College) of the Taunton River watershed found that loss of groundwater recharge due to impervious surfaces accounts for a 4 percent drop in annual baseflow over the entire watershed, but caused up to a 25 percent drop in baseflow for some of the small tributaries surrounded by substantial development. A recent

study by the US Geological Survey similarly identified scale as an important factor in the impact of impervious surfaces on streamflow. Using a model to simulate the impacts of extensive implementation of LID throughout the Ipswich River watershed, researchers found that even converting half of the impervious surface runoff from all developed areas of the watershed back into soil infiltration would not appreciably improve flows in the river and large tributaries. However, they found that LID could significantly improve flow in small streams in the immediate vicinity of development.

Meanwhile, new research from the University of New Hampshire Stormwater Center has reduced concerns about the effects of cold climate conditions by monitoring a variety of LID features, including porous asphalt, at a demonstration site in Durham, New Hampshire over several winters of freeze-thaw conditions, conventional road sanding/salting regimes, and normal wear-and-tear. Other studies are looking at pollutant removal rates, infiltration rates, groundwater quality impacts, and the effects of varying levels of maintenance.

Paradigm shifts are slow, but momentum is a big factor. As LID starts to enter the mainstream consciousness, the ideas will gain increasing traction and in turn be tested by time, research, and practice — a case study in science shaping politics and policy. ■

Sara Cohen is a water resources specialist at the Massachusetts Department of Conservation and Recreation.



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Photographs by Alex S. MacLean

We all know the tale of the three pigs and their homebuilding projects.

Maybe you sang the camp song about the wise man who built his house upon the rock while the foolish man chose a nice sandy beach site. As children, we thus learned the basics about how and where to build. But, as with many lessons taught in childhood, we figured we knew a better way. Architects and engineers are perhaps most susceptible to this pattern — they are, after all, taught how to design their way around any problem.

And so, through a combination of incremental individual decisions and a shared focus on short-term gain, we have sometimes built in places that really make no sense, in ways that defy the greater forces of nature. We drive by them, perhaps we visit them on vacation, and we take advantage of their contributions to today's economy. We don't see the big picture.

But Alex MacLean does. From his plane, thousands of feet up, the details recede. Patterns emerge. Folly is revealed. "Mitigation packages" become unimportant. An internationally celebrated photographer, MacLean takes advantage of this rare vantage point, his aesthetic sensibility, and his deep knowledge of environmental issues to promote a better understanding of the American landscape and wise land-use.

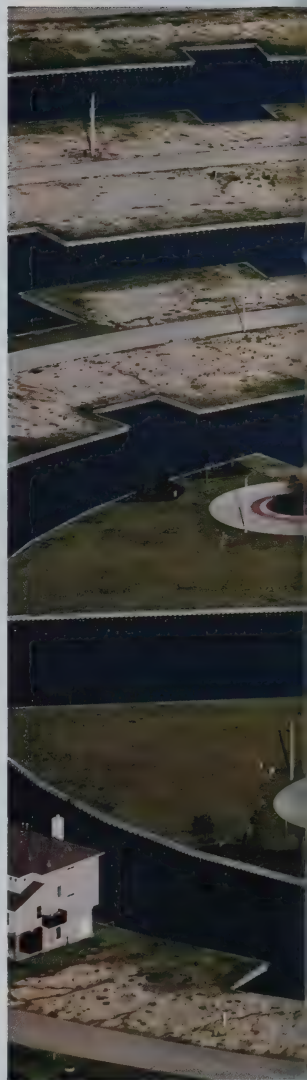
The following images are drawn from MacLean's new book, *Over: The American Landscape at the Tipping Point*. Even more than his previous books, this collection of photographs has an urgency, focusing on topics such as water use, sea-level rise, waste, automobiles, and electric generation to demonstrate the vulnerability of our built environment and the fragility of the natural environment.

What's wrong with these pictures? Nothing. They tell you everything you need to know.

— Elizabeth S. Padjen FAIA

Alex S. MacLean is a photographer in Lincoln, Massachusetts. The co-author of seven books, he has had numerous solo and group exhibitions around the world and is a recipient of the Rome Prize in Landscape Architecture from the American Academy in Rome. For more information: www.alexmaclean.com.

Photographs and captions adapted from *Over: The American Landscape at the Tipping Point* by Alex S. MacLean (Abrams, 2008). All photos: © 2010 Alex S. MacLean/Landslides.



What's Wrong With This Picture?



Galveston, Texas

Built on wetlands in Galveston Bay, the new community of Harborwalk takes advantage of high waterfront property values, despite its vulnerability to sea-level rise and hurricanes.

Homestead, Florida

Canals cut into coastal wetlands act like a giant radiator to cool water from the Turkey Point nuclear plant before it is returned to the condenser for reuse.





Waltham, Massachusetts

Parking lots paved with impermeable materials send runoff with surface contaminants into streams and sewers, and prevent rainfall infiltration and groundwater recharge.





Boulder City, Nevada

The Cascata Golf Course, outside Las Vegas, features a 418-foot waterfall. Golf courses in the Las Vegas metropolitan area account for 5 percent of the region's water use.



Santa Rosa Island, Florida

Beach erosion on this barrier island has brought the ocean closer to a parking lot and picnic shelters that have been partially covered by shifting sands.





Political Science

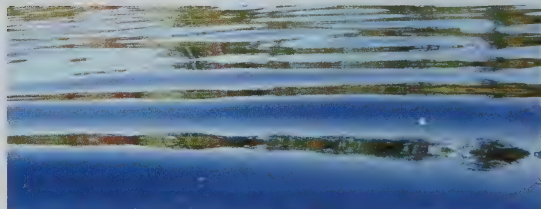
Bob Zimmerman talks with
Jay Wickersham FAIA



Bob Zimmerman is the executive director of the Charles River Watershed Association, where he has initiated groundbreaking ecosystem analyses and land-planning studies, helped rewrite land and water regulation, developed restorative technologies, and served as a leading advocate for more-effective water management policy across the entire region. Prior to joining CRWA, he was a founder and headmaster of the National Sports Academy in Lake Placid, New York. He has degrees in history, English, and Middle English from Central Michigan University, and worked for two years as a consultant to the energy industry.



Jay Wickersham FAIA is a partner in Noble & Wickersham, a law firm specializing in design, construction, environmental, and land-use law, and is a lecturer at the Harvard Graduate School of Design. From 1998 to 2002, he served as assistant secretary of environmental affairs for the Commonwealth of Massachusetts and as director of the state's environmental impact review program. He previously worked as an architect and urban planner in Boston.



Can one river change the world? With the science and political skill behind the Charles River Watershed Association, you wouldn't bet against it.



Jay Wickersham: As a former headmaster with a degree in Middle English, you have certainly followed an unusual career path. You are now one of the leading authorities on water issues in this region, and your organization, the Charles River Watershed Association, is similarly known today for its leadership in statewide environmental policy. How did that transition occur?

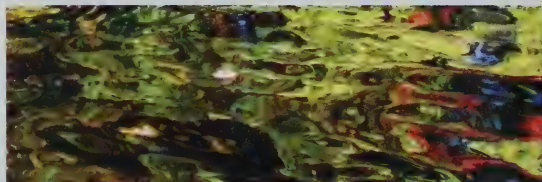
Bob Zimmerman: Curiosity, I guess. That and the fact that there were about six jobs available in the US at the time. I got into water policy after I joined CRWA as executive director in 1990. Looking back, I would say that I was fairly naïve as far as environmental nonprofits were concerned. I thought that everybody knew what was wrong with the environment, that the only question was finding the will and the funding necessary to go out and fix it. I quickly became aware that that's not the case.

I attended lots of extremely contentious meetings with federal and state agencies, municipalities, and consulting firms about combined sewer overflows [CSOs], a function of stormwater and wastewater using the same pipes and overflowing into the river and harbor when the stormwater volume is too great for the pipes to handle. It became very clear that there was this notion that the Charles River had always been dirty — the “ambient pollution” theory — so it wouldn't really matter if the CSOs were cleaned up because the river would still not meet any water-quality standards. It occurred to me that perhaps we needed to take a broader look, so we launched the Integrated Monitoring, Modeling, and Management project in late 1994, to figure out how the Charles watershed really works. Where does the water come from? How does it get in the river? Where are the sources of its pollution? How do they all mix? When things go bad, why do they go bad? That's remained the focus of the organization ever since.

CRWA has become a unique regional watershed organization; I don't believe there's another like it in the country. It has its own engineering and science staff and legal capability, and virtually all of the work we do is based on our own science and computer-modeling capabilities. Since 1995, we've been monitoring every two miles of the Charles River every month, so we have a fairly deep and broad dataset. It's pretty easy for us to figure out whether our actions are making the river better or worse, or if things are staying the same.

Jay Wickersham: Can you talk more about this concept of a watershed? People think of themselves as residents of a particular city or town, but most probably don't even know what watershed they live in. Why have you chosen a watershed as a territory to watch over and defend?

Bob Zimmerman: From an environmental perspective, a watershed is that area of land that can be expected to survive pretty much on its own as long as there is rain. In the case of the Charles, it's the 308 square miles of land that drains to the Charles River. The nice thing about the Charles is that it's only 80 miles long. So it's relatively easy to study and to understand the interactions between humans and nature and the issues that we create. A lot of the work that we do is applicable to virtually any urban river system in the world.



Jay Wickersham: The Charles has long been associated in the public mind with severe pollution. Back in 1995, EPA regional administrator John DeVillers announced a goal that within 10 years, the Charles River would be fishable and swimmable; a year later, then-governor William Weld made his famous dive into the river to underscore the state's commitment to the goal. We're now five years past DeVillers' deadline. How are we doing?

Bob Zimmerman: Currently, the river meets the swimming standard in the 10 miles of the lower basin up to 70 percent of the time, and the boating standard, which is five times lower than the swimming standard, virtually 100 percent of the time. Polluted runoff during wet weather is the remaining big issue.

Early on, assumptions about pollution in the river were driven by the mistaken notion that a tremendous amount of raw sewage from the entire watershed was coming over the Watertown Dam into the lower basin. Our monitoring showed that one outfall, slightly upstream in Watertown, was continuously dumping raw sewage into the river — a number of buildings had illegal cross-connections tying into a storm drain instead of a sanitary sewer. Once that was fixed, it became clear that most of the sources of the problems in the lower basin could be found in the lower basin itself: combined sewer overflows, sanitary sewer overflows, illegal cross-connections, collapsed interceptor pipes — failed infrastructure all. In the first three years of the DeVillers initiative, a million and a half gallons a day of raw waste dumping directly into the river was eliminated — a huge impact on water quality.

Jay Wickersham: Were those problems primarily the result of bad engineering or of inadequate maintenance over the years?

Bob Zimmerman: A combination of the two. Boston started laying large interceptor sewage pipes in 1854. And to save money, it was decided that, rather than put the storm drain and the sanitary sewer

in separate pipes, they'd be combined in the same pipe, which is great, as long as it doesn't rain. As the city grew, the capacity of those pipes was exceeded. A lot of the pipes were made of brick; brick has mortar; mortar fails over time. Nobody was checking the pipes: once you bury a pipe, it's easy to ignore it. And that led to another significant concern for the region. Once the pipes start to fail, they leak in — they don't leak out. So groundwater that the pipe passes through actually leaks into the pipe, because the pressure inside the pipe is so much lower than the pressure in the ground. In effect, what we've designed is a system that has created tremendous environmental problems for us.



Today, 60 percent of every gallon of water treated at Deer Island is otherwise potable groundwater or rainwater that has leaked into the system. We're not running out of water; we're throwing it away.

Bob Zimmerman

Now I have to admit that the technology available to us in 1850 and 1900 didn't really allow us to do much other than create large centralized systems to take the water that we use in our homes and throw it away someplace a long way away from us, to make sure that we protected ourselves against cholera and typhus. It made perfect sense. But it's not 1900 any more.

Jay Wickersham: You're critical of the idea of a large centralized wastewater treatment system. Yet the enormous Deer Island treatment facility is considered by most people to be an environmental success story, responsible for the cleanup of Boston Harbor. What's your concern about that kind of centralized system as a model?

Bob Zimmerman: One concern is the approach it promotes to the problems that we face with environmental issues. We tend to look at these problems in isolation. The Conservation Law Foundation and the Environmental Protection Agency brought suit in the early 1980s because of the condition of Boston Harbor, which violated the Clean Water Act. The issue was cleaning up Boston Harbor; and the solution was to create this enormous centralized system, the Massachusetts Water Resources Authority [MWRA], with this new enormous wastewater treatment plant. So we've ended up taking water from the Quabbin and Wachusett Reservoirs to serve communities in the MWRA district, using it, collecting it, and throwing it away, after treatment at Deer Island, nine-and-a-half miles out into the middle of Massachusetts Bay.

On top of that, half of the 43 communities that the MWRA serves actually pump their water locally instead of receiving it from the Quabbin and Wachusett Reservoirs. But that water also gets dumped it into the big pipe and thrown away, nine-and-a-half miles out into the middle of Massachusetts Bay.

And then there is the fact that 60 percent of every gallon of water treated at Deer Island is otherwise potable groundwater or rainwater that has leaked into the system; groundwater alone accounts for 47 percent of every gallon. So we're de-watering eastern Massachusetts. This has enormous consequences. We've all learned over the last decade or so that we're running out of water and there are going to be water wars. I've got to tell you, we're not running out of water; we're throwing it away. That 47 percent of the water in those pipes represents, every single year, the same flow as the Charles River. So there's the equivalent of one Charles River captured and thrown away. Then there's the stormwater that we collect off impervious surfaces in the 43 towns of the MWRA that gets thrown away. That amounts to a second Charles River. And if you add in the wastewater itself, there's a third Charles River. So every year, through Deer Island, we throw away three Charles Rivers from those 43 communities.

Jay Wickersham: And that must have huge implications, both for the environment and for our economy.

Bob Zimmerman: Yes. The bottom line is this: you've got parts of rivers like the Sudbury and the Ipswich that actually run dry in the summer because whatever groundwater is available is being taken for human demand. In urban rivers like the Neponset and the Charles, the impacts are in abnormally low flows, so what you get in the river is concentrated pollution. And when there's less water in a river, the temperature goes up, so its carrying capacity for fish and wildlife is reduced. Have we felt it at the tap, in our kitchens? No. Will we? Yes.

Jay Wickersham: So what would you suggest as an alternative to the large centralized systems?

Bob Zimmerman: At CRWA, the first part of our strategy is to buy time. It's going to take decades to effect broad change. In the meantime, we want to make sure that things get no worse than they are right now.

Associated with that is the work we've done in getting conservation-based water withdrawal permits and registrations,

Virtually all of the water problems that we suffer in urban areas are a direct result of the infrastructure we have built.

Bob Zimmerman

so that we cap the amount of water being taken from the ground, so that the rivers get no worse. With the new conservation-based permits, towns that would have had to seek new sources of water supply beginning this year, 2010, won't need to seek new sources of water supply until 2030. So we just bought ourselves 20 years.

Jay Wickersham: You mentioned earlier that CRWA takes a science-based approach. But you've also got an active and aggressive legal arm. How have you been trying to effect change through the law?

Bob Zimmerman: On the time-buying front, CRWA, representing the Ipswich River Watershed Association, the Essex County Greenbelt, and Mass Audubon, sued the state Department of Environmental Protection in 2003 under the Water Management Act for failure to balance human demand with natural resource need. When one-third of the Ipswich runs dry for more than a month every summer, something is clearly wrong in the way we allow water to be used. That suit was ultimately set aside because DEP agreed with us and started writing conservation-based permits. When those came out in early 2005, 11 of the 15 towns affected immediately appealed, and our general counsel remains in court defending DEP and continuing to make the case for the permits. So far, we've won in every venue, and I would expect that we'll win in the end. In the interim, those permits are in place and they do help.

We are also examining policy and regulation. We build these enormous centralized systems because somebody demands them. We know the environmental damage they create — virtually all of the water problems that we suffer in urban areas are a direct result of the infrastructure we have built. So we're looking at regulations that take a different approach, which over time mimics nature and eventually restores water bodies. We can restore trout streams, even the Charles River, and provide for human demand pretty much regardless of growth.

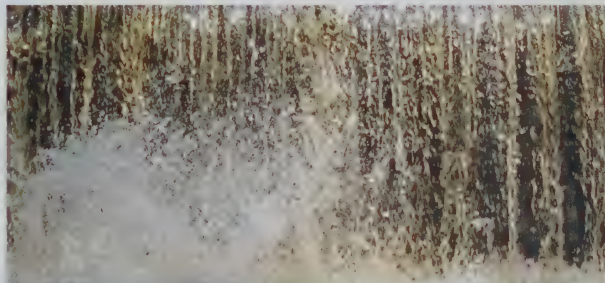
Jay Wickersham: What would that mimicry of nature look like? And how would it affect the way we build today?

Bob Zimmerman: First we need to understand how nature works here in New England. Nature wants to hold on to precipitation, so water infiltrates the soils and collects in underground aquifers with tremendous storage capacity. What we typically do instead is to collect the water off impervious areas — parking lots, buildings, roadways, sidewalks, heavily compacted soils — in a storm drain in the side of the road and then throw it away. And of course, in the process of running across all of this pavement, the water also gets

pretty heavily polluted — a regular pollution cocktail. If we were to mimic nature, we would not let that water get away. We would use techniques such as swales, rain gardens, and porous paving — techniques associated with Low Impact Development (LID) — to let it run through the soil to clean up the vast majority of those pollutants. In the summer, it would support plant life and trees, which provide cooling and sequester carbon, and in the winter, it would percolate back into the ground to recharge the aquifers, as it would have 300 years ago.

The idea can be applied in other ways as well. When we pump water from town and private wells for use in our homes, we can cycle it back rather than throw it away. We've created a computer model at CRWA to locate areas in cities and towns where that water can be cleaned up and then discharged back to the ground, so it goes back to the surface water bodies it would eventually have fed if it had not been pumped. So you get a big recycling process that restores in-stream flow, protects us against drought, and reduces flooding.

Jay Wickersham: But you well know that local treatment can sometimes lead to local opposition.



Bob Zimmerman: No matter what you do in the United States, the “not in my back yard” attitude is going to remain a problem. In the end, however, we need this infrastructure. The nice thing about these wastewater treatment plants is that they're not the kinds of plants that currently dot the landscape — with the smells and the big surface water separators and tanks. These are, in effect, huge septic systems. Most of the discharge occurs underneath the ground. You could build playing fields over the surface. They're not huge. The other nice thing about groundwater discharge is that you eliminate the problem of releasing pharmaceuticals and personal care products into waterways. The University of California Berkeley has shown that, within 90 feet of filtration through the ground, that stuff is eliminated.

Jay Wickersham: So the ground serves as a natural filtration and cleaning system?

Bob Zimmerman: Absolutely. It allows you to replicate, technologically, the kinds of systems that nature created before we built Boston.

Jay Wickersham: What kinds of changes should we be asking for, as citizens and consumers, as homeowners or tenants? In the face of large, complex problems like this, people often think there is little they can do as individuals.

Bob Zimmerman: The first thing we need to do is buy time. We need to reduce water demand so that we have the time to test, investigate, and put in place water infrastructure that's restorative and sustaining.

We can demand that our municipal leaders and the consultants and contractors they hire think about the larger system instead of isolated one-off solutions. We can push for local zoning modifications to allow Low Impact Development. We can ask how we want our towns to function 20 years, 100 years from now. How do we provide for and sustain water resources? How do we provide for growth? Where do we want the growth to happen? Can we create infrastructure that causes smart growth?

One of the things we're working on now is a process we call "spot sewerage." Many suburban and exurban communities don't have any wastewater treatment plants. And they want to guide and control growth; they want to create a walkable village

We're looking at regulations that take a different approach, which over time mimics nature and eventually restores water bodies.

Bob Zimmerman

center. So let's sewer that village center, but only the village center, to direct development to the core.

Jay Wickersham: I've been working on a project in North Easton, Massachusetts, which is looking at a plan to redevelop a wonderful historic factory complex. And in order to support that, the developer, with funding from the town, would provide an onsite wastewater treatment plant with enough capacity to pick up the rest of the downtown in order to foster exactly that kind of redevelopment, while discouraging growth along the outer arterial roads.

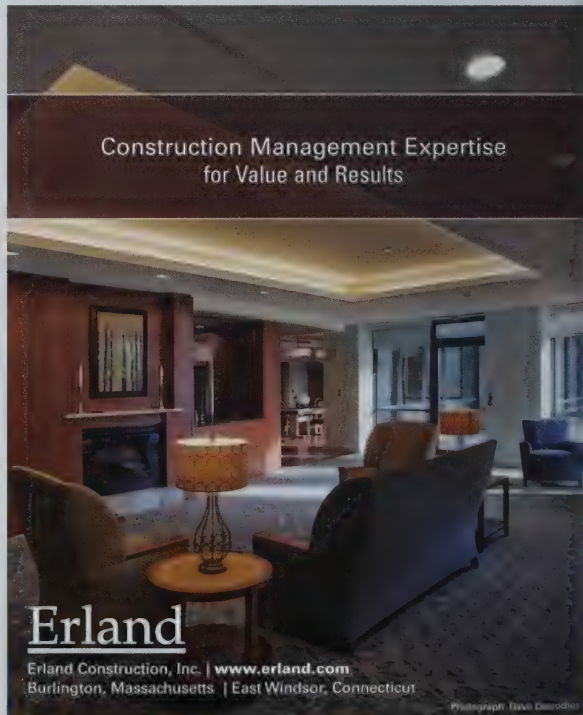
Bob Zimmerman: And if they use an anaerobic treatment process to capture the methane, they can burn the methane, spin a turbine, and generate energy for that downtown district. Methane, by the way, is 23 times better at trapping heat than carbon dioxide, so burning it is actually a good thing because it removes it from the atmosphere, a form of climate-change mitigation. If they do this



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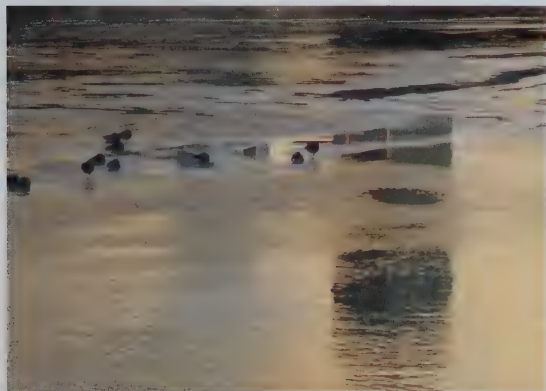
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Photograph: David Chiodo

right, if they run our computer model and figure out the best spot to discharge that water to the ground, and if they use an anaerobic treatment process to generate energy, they will create a profit center for a town that's probably struggling with property taxes.

Jay Wickersham: Looking back over 20 years of stewardship of the Charles River watershed, are you optimistic about our ability to make the kinds of broad changes that you're talking about?



Bob Zimmerman: Sometimes I feel like we're just not moving fast enough. But then I reflect on what's actually been accomplished, which is remarkable. I think we're going to see some changes in the next three to five years in eastern Massachusetts that will show the way for the rest of the country and, in my opinion, the rest of the urban world. The rest of the world, particularly western Europe, is still pursuing perverse solutions, by which I mean human-managed river systems. I just can't go there. I'm for restoring wild rivers. This is America, you know? We don't want to go see a Yellowstone that's in a pipe. I would love to see a Charles River where unnecessary dams are removed in Hopkinton and Milford and Dover and Sherborne, where we can fish for trout again. And that's within our grasp. ■

For more information: www.crwa.org.

For online maps of New England watersheds and a discussion of the length of the Charles River: www.architectureboston.com.

Photos of the Charles River: page 38 (top and bottom), and page 43 by Alex Budnitz; page 38 (center), and pages 39 and 40 by Christine Fernsebner Esiao; page 41 by Paul Keleher.

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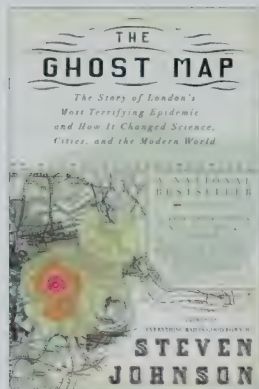
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**THE GHOST MAP:
THE STORY OF LONDON'S MOST
TERRIFYING EPIDEMIC — AND HOW IT
CHANGED SCIENCE, CITIES, AND THE
MODERN WORLD**

By Steven Johnson
Riverhead, 2006

Set in 1850s London, *The Ghost Map* is a superb detective tale of urban density, disease, fortitude, and plumbing. Steven Johnson tells, with page-turning mastery of urban and scientific detail, how the great metropolis was saved from cholera by one doctor's pursuit of a microbe. Think *Nova* meets Sherlock Holmes, with Dickens providing local color.

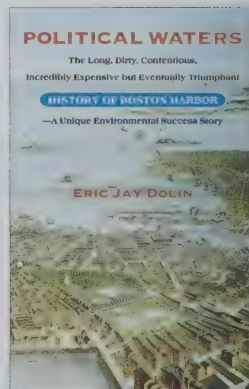
Johnson brilliantly portrays London, the first modern mega-city. In 1854, the population density of the city's Soho district was 432 per acre, or 276,000 per square mile. Compare Boston's South End, with 21,000 per square mile, or New York's Lower East Side with 101,000. Triple that to approximate the human packing of Victoria's Soho, and still you'd be clueless of its malodorous, vomit-inducing stench: streets steeped in manure, shops teeming with livestock slaughter, tanneries, all manner of coal-fired industry — each emitting pungent airs. Worse was the reek of excrement pooling in fetid courtyards and cellars: as rural people poured into London, tripling its population in 50 years, human waste clogged the ancient system

of cesspools and dung-handlers. Newly fashionable "water closets" made matters worse: the average household flushed 244 gallons daily into non-existent sewers. Enter the epidemic. Bacteria *Vibrio cholerae* had been around for millennia, checked by the human instinct against ingesting excrement, and widespread taste for the salutary antimicrobial effects of alcohol and tea. But London's lethal stew was a perfect host for cholera outbreaks that decimated neighborhoods every few years. Johnson describes London as "permanent, rolling disaster, a vast organism destroying itself by laying waste to its habitat."

The detective of the story, physician John Snow, discovered the truth that cholera is waterborne and becomes epidemic when drinking supplies mix with human waste. Victorian doctors correlated smelly streets with cholera and promoted "miasma" theories of airborne contagion. Noting that cholera attacked intestines and not lungs, Snow pursued his waterborne theory, though ridiculed by the medical establishment. Fearlessly visiting the dying to trace water supplies, he eventually linked the victims to a single well that abutted a hidden cesspool and convinced authorities to remove the pump handle. In that one act, he arrested a raging epidemic and founded the profession of epidemiology. (The John Snow pub marks this site today — high British honor.)

Johnson's epilogue flashes forward to post-9/11 terrors facing cities today: ebola, anthrax, H5N1 influenza, jihad. Johnson worries most for urbanism when the nuclear-armed "dirty bomb" terrorist arrives. City life would be destroyed, he says, lessened by each look over the shoulder. I wonder how true that is. Urbanites show grit in adversity, comrades in courage and civility, exemplified best by the author's subject, London. Cholera, the Blitz, smog, floods, the IRA, the 2005 Underground bombs — this great metropolis survives, and is greater for its trials. London calling.

Robert Taylor is a principal of Taylor & Burns Architects in Boston.



**POLITICAL WATERS: THE LONG, DIRTY,
CONTENTIOUS, INCREDIBLY EXPENSIVE
BUT EVENTUALLY TRIUMPHANT HISTORY
OF BOSTON HARBOR — A UNIQUE
ENVIRONMENTAL SUCCESS STORY**

By Eric Jay Dolin
University of Massachusetts Press, 2004

Boston has been profoundly affected by sewage. Though many histories have been written about Boston, most have failed to find drama in the history of its sewage. *Political Waters* recounts the roller-coaster of events that brought one of America's best-known harbors into and then, remarkably, out of environmental despair.

From Boston's earliest days, sewage was considered an unpleasant nuisance. Successful sewer management was measured by how quickly the wastes could be conveyed away from basements and streets — albeit to the shallow shoreline waters of Boston Harbor. But it wasn't long before this "very stinking puddle" became a health concern, and public outcry coupled with emerging medical evidence demanded regulatory action — and the unofficial start of a near-two-century battle with managing sewage discharge.

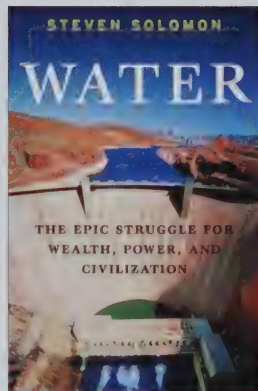
Early attempts to solve the sanitation issue pushed the issue further "downstream" (deeper into the harbor), and the degradation of Boston Harbor continued well into the 20th century with little notable progress made. Dolin successfully paints

the picture of the public's ignorance of a pending environmental crisis; after all, the sewers appeared to be doing their job and wastewater was "out of sight, out of mind." But when legal and political events began to converge and Boston's "harbor of shame" became a national laughingstock during the 1988 Bush-Dukakis election, sewage was brought back into the public eye.

The book provides a factual and seemingly unbiased account of the events that ultimately led to the successful cleanup of Boston Harbor. As Dolin recounts the political decisions and engineering responses implemented throughout the course of history, he also presents numerous opposing points of view and alternative recommendations. Interestingly enough, some of the concerns voiced even in the early 1800s presaged environmental concerns today. For example, when the question of solutions for sewer and stormwater flows arose, the decision to combine them was made in order to avoid the cost of constructing double sewer lines and to allow storm flows to periodically flush out the sewers—despite some objections. Today, nearly a decade after the completion of the Boston Harbor project, combined sewer overflows (CSOs) pose a lingering threat, and an expensive multi-year CSO project is still underway in Boston and surrounding communities.

Now that we have our Deer Island treatment plant, 43 communities flush their toilets without worry. And 51 communities continue to turn on their faucets knowing that clean water from the Quabbin Reservoir will arrive. Dolin's portrait of a public oblivious to impending crisis forces the question of whether the Greater Boston area today might be similarly oblivious to a looming crisis. Our waters are still impaired, and we have yet to solve the problems from stormwater runoff—CSOs, inflow/infiltration, nonpoint source pollution, and aquifer depletion. Are we doing enough?

Nicole Holmes PE, LEED AP BD+C is a civil engineer and project manager at Nitsch Engineering in Boston.



WATER: THE EPIC STRUGGLE FOR WEALTH, POWER, AND CIVILIZATION

By Steven Solomon
Harper, 2010

Subtitled "The Epic Struggle," *Water* is itself an epic work of anthropocentric political history in classic Western mode. Steven Solomon's research into the relationship between cultural evolution and water is massive and perhaps unprecedented. In the notes preceding his "selected" bibliography, the author describes the challenges he faced: on the one hand, a dearth of books similarly investigating the role of water in history and, on the other hand, a glut of recent literature addressing today's water issues—material too vast to include in a bibliography. Thus his many substantive chapter notes have an important role.

In *Water's* enjoyable and dense pages, I found myself wishing for a presentation in reverse timeline or in some multi-threaded format. This might have allowed his concluding discussion of today's global water science to complement the restatement of the history of "civilization" that is the focus of much of his attention. Solomon's use of the term "civilization"—and many other terms used to identify the phases of cultural evolution—is ambiguous. In cultural anthropology, "civilization" refers to a phase of culture energized by the invention of agriculture and evolved during the "agricultural revolution." The

culture in which we have lived since the 18th-century "fuel revolution" might be termed a "post-civil culture of abundance" (enabled by fossil fuel and fossil water)—now in the process of morphing into a later phase, perhaps the "efficiency revolution." All of these cultural phases are threaded through Solomon's text but ultimately rolled into the catchall "civilization," as in his prologue: "[Future] civilization will be shaped as well by water's inextricable, deep interdependencies with energy, food and climate change." But it is useful to understand we are at least two evolutionary steps away from that cultural phase.

Water is a worthy companion to Jared Diamond's *Collapse*, similar in its effort to discover lessons of human history related to bioregional context. Oddly, *Water* does not deal with the powerful integrating force of current global culture, instead assuming that the planet will continue to encompass many semi-autonomous nations of water haves and have-nots. A striking example is the minimal inclusion of considerations of global trade in "virtual water" (embedded water), which dramatically alters local water use. Another is his light treatment of the challenges of bioremediation and restoration of natural biodiversity. The lack of discussion of the wholesale displacement of populations necessitated by rising sea levels and the effects of climate change is also significant.

Read *Water*. It takes the form of an evocative string of engaging historic narratives and carefully researched information. Although much of that information is limited to the standard Western bias of its historic sources, the book's anthropocentrism is innocent and readily identified. *Water* is an honest and scholarly effort both to remind everyone that water is the basis of all life on earth and to trace the history of human technologies and the societies using them.

Philip Norton Loheed AIA is a principal of BTA+Architects in Cambridge, Massachusetts and president of the nonprofit Earthros Institute in Somerville, Massachusetts.

Covering the Issues

“Old is the New Green”... It’s about time. Green building and historic preservation are starting to talk. Hanley-Wood debuts its redesigned *Eco-Structure*, a quarterly focusing on environmental performance, with an issue on existing buildings, proclaiming on the cover, “The Past is Our Future” (January/February 2010). The new “Flashback” column — promising to visit structures to see how they’ve held up over time and explore lessons learned — is the strongest idea of the whole issue, though it needs greater analytical depth to be truly useful. Elsewhere, “The Height of Sustainability,” Sudip Bose’s cover story in *Preservation* (March/April 2010) on the comprehensive renovation of the Empire State Building, begins to provide that depth. This renovation is not about adding bamboo floors to the observation deck; this is about quantitative data on energy performance and economics. By reducing energy consumption by 38 percent, the developers predict they’ll save \$4.4 million annually, and the project team hopes that it will serve as a demonstration project for other commercial real-estate renovations. In this, *Preservation*’s third “green” issue, Blair Kamin also takes readers beyond the obvious in “Friends or Foes,” as he explains and explores the tension between historic preservation and environmental conservation agendas. When environmentalists propose adding heat-reflecting silver paint to the iconic black Sears Tower, admittedly things get tricky.

Anybody home?... Kanbashi, a newly constructed district in China’s Inner Mongolia, is designed to house one million people — and it’s empty. Michael Christopher Brown’s eerie photos prove it. Is this a sign of oversupply? Is China’s building boom really a building bubble? In “Ghost City,” Bill Powell poses these terrifying questions for *Time* (April 5,

2010). With residential and commercial real-estate investment approximately 22 percent of China’s overall growth and China’s GDP still rising significantly more than its European or American counterparts, Powell suggests that Chinese officials hope they can deflate the bubble without a pop. We do, too.

Urban magical thinking... Boston native Brendan Patrick Hughes offers a refreshing take on our favorite construction project in “Boston: The Big Dig’s Benefit” for *Next American City* (Issue 26). He suggests that the building boom of the last three decades has left us a changed city that is profoundly different, and presents a fascinating argument that the Big Dig should be understood in conjunction with the Boston Miracle — the community policing initiative that led to a 40 percent reduction in violent crime during the 1990s. It’s all about the *idea* of the city.

Green design and green business... In the wake of Copenhagen and in response to the 10 percent of Obama’s stimulus package headed toward renewable energy, the business press is chattering. Buildings are known energy hogs, as the media like to point out. Published in London, *CNBC Business* (January/February 2010) offers a Euro-American view, discussing solar power, architecture, entrepreneurial pioneers, and promising “eco-business” concepts. Most intriguing is the air-conditioning system designed by London-based Artica that beats standard units by 90 percent. Better still, it requires no refrigerants, few moving parts, and it’s intended for existing construction. In *Entrepreneur* (April 2010), Julie Bennett asks “Are We Headed Toward a Green Bubble?” Reporting that the February 2010 stock index for American clean energy companies is up 25 percent over a year ago,

she conveys cautious enthusiasm along with a primer for her non-MBA readers. *U.S. News & World Report* (April 2010) enters the fray with its own energy cover story. A mix of articles attempt a balanced analysis of current technology, policy, and practices, including innovative urban planning approaches from Denver, and recommended residential upgrades. Author Maura Judkis identifies the essential rub, however: even in this climate, an energy retrofit will likely not raise a home’s value. Finally, *Harvard Business Review* uses its latest “On Point” series (Spring 2010) to repackaging articles around the theme of “Making Green Profitable.” Michael Porter, Paul Hawken, and HBS faculty present trends and ideas influencing business operations. Architects, pay attention. ■

Gretchen Schneider AIA, LEED AP is the principal of Schneider Studio in Boston.



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THE BOSTON HARBOR ASSOCIATION

www.tbha.org

TBHA promotes "maritime industrial activity, environmental protection, and public access around Boston Harbor." Site resources include event calendars, info on water transportation, policy papers, downloadable audio tours, and a guide to safe shellfishing.

HARBOR ARTS

www.harborarts.net

This ambitious new organization promotes public art to bring global attention to ocean issues. Based in Boston, it recently launched the Boston Harbor Shipyard Gallery—which would explain the reports of a 40-foot floating copper cod.

WATER USE CALCULATOR

www.swfwmd.state.fl.us/conservation/thepowerof10

A shower, rinsing the breakfast dishes, watering the lawn...it all adds up. This easy-to-use site will help you calculate your household water use.

RAINWATER HARVESTING MANUAL

www.dcr.virginia.gov/documents/stmrainharv.pdf

It's written for Virginians, but it's a handy guide for New Englanders, too.

THE TSUNAMI SURVIVAL GUIDE

www.whoi.edu/home/interactive/tsunami

Tsunami waves can travel at 500 mph; on average, 10 occur annually. This site from Woods Hole Oceanographic Institution features videos, interviews, and research. It's fascinating stuff, even if you live in Worcester.

WATERFIRE

www.waterfire.org

Yes, you've seen it here before. And you may again, because we're suckers for one of the great urban experiences of all time. WaterFire celebrates its 15th anniversary this year. Have you made the trip to Providence? ■

Boston Harbor

Photo of Christopher Swain by Leighton O'Connor.

In 2004, I swam the entire length of the Charles River. After snaking through 81 miles of discarded appliances, algae blooms, and bedroom towns, I rode the ebb tide into one of the most storied pieces of water on the East Coast: Boston Harbor.

I stroked under the Charlestown Bridge and toward Puopolo Playground in the North End. A light rain peppered the surface of the water. As I sloshed along, a cocktail of urban runoff slid from the streets into the waves around me. I tasted plastic, mud, gasoline, dog poop, and detergent. As a bonus, thousands of gallons of stormwater laced with untreated sewage belched out of Wet Weather Sewerage Discharge Outfall #203 and into the harbor, compliments of the Massachusetts Water Resources Authority.

I thrashed through a stew of pathogens to the finish. Millions of fecal coliform and enterococci bacteria, as well as assorted viruses and protozoans, vied to get into my mouth, eyes, and nose, take up residence, reproduce, and make me sick.

I climbed out of the water, gargled with hydrogen peroxide, and thought, *I'll never swim in Boston Harbor again.*

Of course, I was wrong.

Five short years later, I carved a big, wet turn around Deer Island and headed for the Boston skyline in one of the early segments of a 1,500-mile swim down the East Coast to Washington, DC. As I turned to breathe, I caught glimpses of the sludge digesters at the Deer Island Sewage Treatment Plant — a vine of fat white melons fed by the collective toilet flushes of 43 Greater Boston communities.

My mind said Boston Harbor was cleaner than it had been during my last visit. But as I threaded my way between bouquets of seaweed and trash, I knew in my heart there was still plenty of work to be done. Since my Charles River swim, I had upped the ante. In addition to photographing trash



and combined sewer outfalls, I had spent my weekends arranging beach cleanups and hosting ethical electronics recycling events designed to keep toxic chemicals and heavy metals out of coastal waterways.

While I swam — on any given day I spend three to five hours in the water — my escort-boat crew tested the surface water temperature and pH of the ocean every 15 minutes to measure and map climate-change effects. At night, I stayed up too late embedding that water sampling data into publicly searchable online maps, in order to give the 50,000 students following my swim a glimpse of what was happening to their ocean planet.

Our findings, while not surprising, were not reassuring. For instance, sea surface temperatures were at or near historic highs. Good news for timid swimmers, but bad news if a hurricane arrived and gained energy from the warmer water.

When we tested the pH of Boston Harbor, we recorded values that were consistently below 8 — evidence of the ocean's absorption of man-made carbon dioxide. Before the Industrial Revolution, when man-made CO₂ was first released into our atmosphere in great quantities,

the pH of the ocean was 8.179. Since then, the pH of the ocean has fallen to 8. (If it falls much further, the marine web of life as we know it will collapse.)

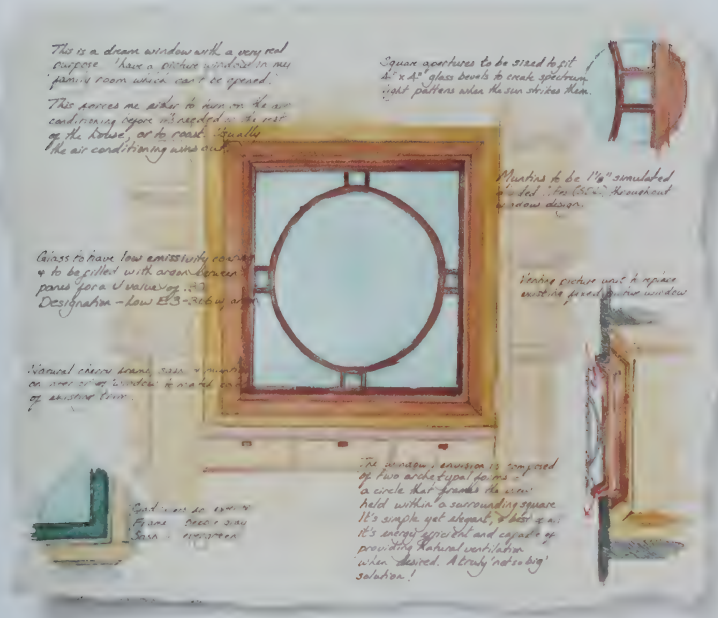
While this scientific news may be fascinating, it is not exactly inspiring. So the question remains: why am I out there, slogging through the darkening seas, dodging plastic trash and fuel slicks?

Part of the reason, of course, is that I hope to strike a spark in the minds of the 50,000 schoolchildren I will meet during my journey. And another part is that I hope our 5,000 water samples will help contribute to the body of knowledge needed to find a solution to the climate crisis.

But the real reason is a selfish one: I have two young daughters. Someday, they are going to look into my eyes and say, "Dad, you knew the ocean was a mess. What did you do about it?" ■

Christopher Swain was the first person to swim the entire lengths of the Columbia, Hudson, and Charles Rivers. He lives in Marblehead, Massachusetts. For more information about his ongoing swim from Maine to Washington, DC, visit: www.SwimForAHealthyWorld.org.

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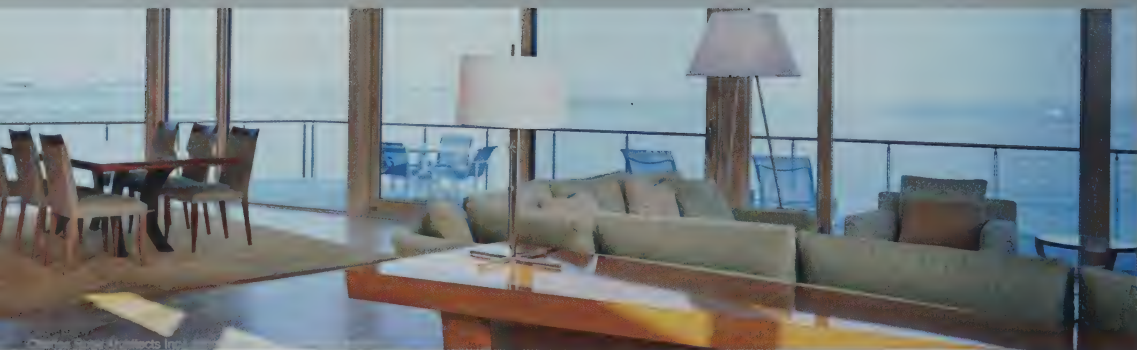
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The background of the cover is a close-up photograph of a green, textured surface, possibly a piece of fabric or a wall, with numerous thin wooden skewers or pins stuck into it at various angles. The skewers are light-colored and contrast with the dark green background.

ab
ArchitectureBoston

Urban Agriculture

The Digital Landscape

The Rise of Landscape Urbanism

TURF

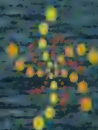
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Tectonic Shift

By tackling some of the most daunting problems of the city, landscape architects are rising to new prominence.

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David Gamble AIA, AICP

Shauna Gillies-Smith ASLA

Wendi Goldsmith

Elizabeth Padjen FAIA

Laura Solano ASLA

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The growing interest in urban agriculture means we need to think about the city in a whole new way.

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For better or worse, digital technologies — smartphones, LEDs, social networking — are changing our cityscapes.

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This page: *Nature Capitale*, an installation on the Champs-Élysées in May 2010 to promote agricultural awareness and biodiversity. Creator: Gad Weil.

Photo by *Nature Capitale/Resolute D.R.*

Cover: *Branford, Connecticut*. Photo by Keith Johnson.

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Back to the Land

Chickens are hot.

An increasing number of city-dwellers and suburbanites aspire to lives as corporate hunters by day and egg gatherers by evening. Of course, it doesn't start with chickens. Tomatoes are often the gateway crop — people start with an innocent container on the deck, then graduate to basil, and before long, the Rhode Island Reds are coming home to roost.

In addition to supplying fresh eggs, chickens provide a living, squawking metaphor for new attitudes about the city. Buried in reports about neighbor skirmishes and fevered examinations of agricultural restrictions in zoning codes is the sense that we still haven't found the right model for the city, that the old ways of isolating nature through green ghettos (variously called parks and playgrounds) aren't working for us anymore. When we stopped thinking of Mother Nature — an entity — and started thinking about the environment — a condition — we realized that tree museums and flower zoos weren't enough.

The interest in sustainability and the related attention to food sources, organic agriculture, and “slow food” are obvious reasons why so many city-dwellers are suddenly listening to their inner farmer. But larger cultural forces are at work, too. *ArchitectureBoston* has in the past explored the trend away from classification and hierarchy that defines our era (“Hybrid,” November/December 2008, and “Blur,” November/December 2004). It makes sense that we would now think in terms of smudging the line between city and country that has existed since Roman times.

Striding into this new territory are landscape architects. Theirs is a profession long misunderstood by the public, if indeed the public knows anything about it at all. But theirs is a profession that was also long misunderstood — and certainly

underestimated — by the building community, including architects and owners. That is no longer the case. Landscape architects are claiming new turf: anything that's not a building is theirs.

The new prominence of the profession coincides with the shift in our perception of the city and in the ways we define its relationship with the natural world. We have moved from a two-dimensional treatment of surfaces through plant and paving selections to a three-dimensional understanding of space — whereby every HGTV host now blathers about “outdoor rooms,” — to a four-dimensional understanding of cities as systems.

The urban-agriculture movement is only one part of the new attitude about cities. But it has introduced the concept of the productive landscape — a landscape that is somehow useful, as opposed to all those layabout ornamental gardens and lawns. Food production is the core of the idea, but with it has come the notion that the landscape can do more, that it can serve multiple roles, mitigating environmental damage, restoring habitats and wetlands, managing stormwater, even producing biofuels, compost, and wind energy. We are at the frontier of thinking in terms of the productive landscape and of reconciling previous conceptions of the “built” and “natural” landscape. What if we overlay digital technologies on the landscape — can it produce information and new experiences? What if cities are no longer built to contain the natural world but instead are formed to respond to it?

Landscape architects are claiming new turf: anything that's not a building is theirs.

The latter question is at the heart of the “landscape urbanism” movement, which has caught the attention of city planners and policymakers and brought fresh energy to the landscape-architecture profession. Want your kid to grow up to design cities? Forget Legos. Think mud puddles. ■

Elizabeth S. Padjen FAIA
Editor



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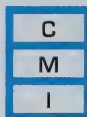
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Letters Letters Letters

Water — the water of the Charles River and my desire to swim in it — was one of the main reasons I started the Charles River Conservancy 10 years ago. I love swimming in city rivers; for me it embodies urban livability. When I arrived here from Switzerland 30 years ago, I envisioned swimming in the Charles. To support a cleaner Charles, I started by becoming a volunteer water-tester.

Thanks to the hard work of the EPA, MWRA, municipalities, the non-profit CRWA, and more than \$500 million of public funds, the water of the Charles is now fit for swimming most days. But it is not legal yet, except during sanctioned swim events such as the one-mile race sponsored by the Charles River Swimming Club.

With initial funding from the Boston Foundation, the Conservancy has been advocating for the return of public swimming and now staffs the governor-appointed commission that is exploring potential swimming sites. This summer, with funding from the Cabot Family Charitable Trust, the Conservancy, with Northeastern University, is conducting daily water quality monitoring at five locations.

Under the leadership of Northeastern University professor Ferdi Hellweger, student teams designed platforms that would make access to deep water possible, while avoiding polluted sediments. In the future, we hope to design bathhouses for swimmers, similar to those in Basel, Geneva, and Zurich. SwissNex developed an exhibit on urban river bathhouses in order to inspire thinking along the Charles. To find out more, visit www.thecharles.org.

Renata von Tscharnier
Charles River Conservancy
Cambridge, Massachusetts

The “Water” issue [Summer 2010] addresses larger environmental issues concerning the future of Boston and its most valuable assets: the harbor, the Charles River basin, Fort Point Channel, the Fens, and the Mystic River. It is interesting to note that Boston’s proportion of water to

landmass is twice that of Amsterdam, a city in which public activity thoroughly engages the water beyond pricey water taxis and outdated harbor tours and dinner cruises.

How about introducing new public activity to the Boston waterfront? Nicolas Biddle, a 2009 SHIFTboston competition finalist, devised such a solution with his entry “Concept NA: Barging through Boston.” Nicolas proposed activating the Boston waterfront by reusing existing local barges for new floating activities. This simple concept already exists in other cities and could be emulated here beautifully.

Progress has been made to transform this idea into reality. Nicolas has secured access to available barges through an alliance with a barge manufacturer in Rhode Island. He has obtained full support from the Boston Redevelopment Authority and is now seeking approval and support from Massport. At the current rate of progress, we may expect to see an “occupied” public barge on the Boston Harbor by next summer.

So, what is the next step with this initiative? The next SHIFTboston competition will be to design and implement this idea. The winner of the competition will be given funding to construct his or her installation on the barge next spring.

Imagine: Next summer, you could be enjoying a floating adult playground with live music, food, and drinks. The barge may incorporate elements such as water-spraying fountains, pools, a jungle gym, hammocks, swings, or lounging spaces. Who knows? You decide! (For more information: www.shiftboston.org and www.conceptna.com.)

Kim Polinquin
SHIFTboston
Boston

Since I moved to Cambridge 19 years ago, water has been an ongoing priority in my circles (environmental science) and it amazes me that in such a long time we have made relatively little progress in creating a sustainable water region. It seems that as

a species we are good at posing questions, poking at the underlying science, and creating short-term fixes, but we have difficulty coming up with sustainable long-term solutions and plans for implementation.

Yes, there has been change for the better, and kudos to the heroes who have achieved this: the Charles River is cleaner and even occasionally swimmable, the Boston beaches aren’t closed half of the season, plumbing codes are preventing us from flushing more water than necessary, and Cambridge has a brand-new state-of-the-art drinking water facility. However, there are plenty of remaining problems. In the last 20 years, what have we done to truly live in sync with our water environment?

The “Water” issue of *ArchitectureBoston* [Summer 2010] hits the nail on the head. These articles explain the barriers to more sustainable water management, many of which are related to the built environment. There are old building codes that frustrate architects and planners with innovative ideas, and there are improper approaches to stormwater management that result in flooding in some areas and sinking groundwater levels in others. However, the most significant barrier is our culture of consumerism and our craving for luxury and status. As long as people hold to the belief that “bigger is better” and use conventional approaches, we will not achieve sustainability. This is why we need a paradigm shift and why many of us are focusing on education. Programs like the Water: Systems Science and Society Program at Tufts University change the vision of our future practitioners who will enter the workplace with a fresh mindset. We can already see the results of the last 10 years of education in the 155 architectural firms that have become members of the US Green Building Council. Education in sustainable practices needs to be a priority if we want to see real, effectual change in water management.

Antje Danielson
Tufts Institute of the Environment
Medford, Massachusetts

Thanks so much for raising the question of how we will need to adapt to climate change ["The High Tide of Opportunity," Summer 2010]. The thought leaders in urban planning really need to be focused on this question. As much as we may be doing to cut our dependence on fossil fuels, we should be doing much more. Unfortunately, while we may be able to avoid the worst imaginable consequences, it seems clear that we will not do enough to stave off substantial changes. The conversation about how to respond to those changes needs to start now.

Will Brownsberger
State Representative, Democrat
24th Middlesex District

commitment of significant resources to attack the problems.

The working group was established during the Romney administration and has continued its excellent work during the Patrick administration, an indication of the broad understanding of the need to attack this problem in order to preserve the historic neighborhoods that are such an important part of the history and economy of the city, state, and region. In fact, the recognition of the importance of addressing, rather than hiding from, groundwater issues in recent years is the most critical change that has made all other improvements possible.

Elliott Laffer
Boston Groundwater Trust
Boston

Corrections:

In the interview with Bob Zimmerman ["Political Science," Summer 2010, page 39], John DeVillars' name was misspelled.

Geoff Weisenberger of the American Institute of Steel Construction provided the following clarifications to the "Virtual Water" chart on page 17 of the Summer 2010 issue: Structural steel produced in the US uses a closed-loop water system that consumes only 60–70 gallons of water per ton of steel, with water reclamation rates greater than 95 percent. Also, structural steel should be compared to structural concrete rather than cement, as cement is only one component of concrete. Comparisons should consider that one ton of concrete is not functionally equivalent to one ton of structural steel in a building project; a conservative estimate is that eight tons of concrete is required to do the job of one ton of steel.

We want to hear from you. Letters may be e-mailed to epadjen@architects.org or sent to *ArchitectureBoston*, 52 Broad Street, Boston, MA 02109. Letters may be edited for clarity and length, and must include your name, address, and daytime telephone number. Length should not exceed 300 words.

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Mark Pasnik and **Chris Grimley** are two men on a mission. As the directors of pinkcomma gallery and self-proclaimed guides to Boston's "design underground," they are dedicated to showcasing a new generation of talented architects and designers in the city. In more than a dozen small and provocative shows since the gallery's opening in 2007, they have demonstrated that the design culture of Boston is vibrant and energized beyond the walls of the area architecture schools.

Their ambitious and most recent initiative is the first Design Biennial, curated with Michael Kubo, featuring a juried selection of five emerging practices. Highlights of the exhibition include the serenely beautiful geometric study of an A-frame house by William O'Brien Jr., a spatially and materially ingenious back-lot house by Touloukian Touloukian, and a playful proposal to "graft" a community center onto the roof of a supermarket by Carla Ceruzzi and Ryan Murphy of C&MP. Dan Hisel's Heavy/Light House makes visible the poetic potential of abandoned infrastructure and Gretchen Schneider's

"Making Time Visible" project, which draws the footprint of Scollay Square onto City Hall Plaza, creates a simultaneous understanding of past and present city structure.

A snapshot of the preoccupations of this generation of Boston architects at this moment in time reveals an interest in "smart design" enabled by digital technology, an innovative exploration of craft and the sensual and tactile qualities of building, and a reflection on history concurrent with an enthusiasm for the future. The exhibition presents images from different architects side-by-side, making it difficult to grasp a coherent view of each author's work. But the pleasure of unexpected visual connections between projects is worth the experiment, as is the introduction of a welcome new event on the city's design calendar.

Andrea Leers FAIA is a principal of Leers Weinzapfel Associates and adjunct professor of architecture and urban design at the Harvard Graduate School of Design, where she is also director of the urban design program.

Milton Glaser: To Inform and Delight

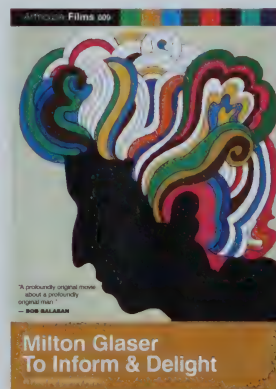
Directed by Wendy Keys
DVD, 73 minutes
New Video Group, 2010

This aptly titled documentary offers a portrait of one of the most revered graphic designers of our time. Who hasn't seen Milton's "I ♥ NY" campaign or his iconic Dylan poster? As a co-founder of Push Pin Studios in 1954, Glaser, along with his cohorts, provided a truly American counterpoint to the prevailing Swiss design ethos by incorporating idea-based illustration into publishing and branding projects.

Clever, articulate, and charming, Glaser is the movie's greatest asset, and director Wendy Keys doesn't skimp on his colorful commentary and anecdotes from his 60-year career as a thinking artist, designer, teacher, mentor, and New Yorker. At the heart of Glaser's appeal is his love of drawing, employed in both his commercial work and fine-art projects.

While the strait-laced moviemaking may not adequately reflect the creativity of Glaser's impressive output, it's near-impossible not to be won over by his love and respect for his chosen profession, which is amply returned: Everyone ♥s Milton.

Clif Stoltze is a graphic designer and the principal of Stoltze Design in Boston.



Home Work: Contemporary Housing Delivery Systems

Northeastern University
April 3, 2010

Although this conference was called Home Work: Contemporary Housing Delivery Systems, it could have been called The Search for the Holy Grail. The allusion, made only half in jest, captures the idealistic belief of many of those presenting: armed with the right high-style, low-cost building systems, architects can reclaim the housing design kingdom lost to bottom-line builders and developers.

The first of three panels looked at the history and mythologies of architect-designed prefabricated housing. Efficient production, they suggested, can bring Modernism to the masses and create an authentic contemporary vernacular. Peter Christensen, curator of MoMA's 2008 prefab housing exhibition, Karrie Jacobs, former editor of *Dwell* magazine, and

Matthew Littell of Utile provided a survey of the technical explorations, formal investigations, and utopian aspirations that have inspired and frustrated designers for generations.

The second panel presented four delivery systems based on very different models. Houston-based Hometta sells stock house plans by up-and-coming young Modernist architects — for up-and-coming young Modernist buyers missing the money for a custom design. Bluhomes manufactures panelized houses that can be ordered online and unfolded on site. And Northeastern's Peter Wiederspahn is developing e3Co, a foam-block and plywood building system reminiscent of larger-than-life Legos.

Joe Tanney of Res4Arch offered the most convincing evidence that prefabrication can help architects battle the purveyors of vinyl-clad Colonials. His custom-designed modules are based on a rigorous analysis of programmatic needs and production constraints; over the past decade, he has produced a stunning series of completed houses. Abstract but

accessible, well-appointed but affordable, they hint that the Holy Grail might be within reach.

The third panel, however, laid out the vast terrain still to be conquered. Affordable-housing developer Peter Roth described the economic and political challenges that tend to defy architectural solutions. Architecture department chairman George Thrush and conference organizer Ivan Rupnik contrasted the single-family focus of the prefab effort with the need for a broad range of multifamily options. And David Wax of Free Green reminded the room full of designers that they can't create their own markets but must respond to ones that exist. Good intentions and great design may not be sufficient to fight the dark forces controlling development — and to deliver the iHouse Thrush suggested we should be searching for.

David Eisen is a principal at Abacus Architects + Planners in Boston and writes about architecture and design for a variety of publications.

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Stand Up. Fight Back.

The event: A meeting of people affected by foreclosure

The organization: City Life/Vida Urbana, a nonprofit Boston community group.

The crowd: A hundred people, mostly Latino and African-American homeowners facing foreclosure, tenants threatened with eviction from foreclosed properties. City Life staffers and members from the community, lawyers from Greater Boston Legal Services and the Harvard Legal Aid Bureau providing volunteer services

6:42 A man in a white T-shirt stands at the front of the room, telling his story. The bank foreclosed. He went to court with a lawyer. Boston Community Capital (BCC, a nonprofit community loan fund) bought back his house from the bank. And now he is living in the house, using the rent from the first-floor unit to make mortgage payments.

"People get up and say, 'I got my house back,' but now I can say, 'It's me. It's real.'"

6:50 Mary Wright, a tenant organizer with City Life, takes over the microphone. "Sometimes we have to wait and wait and wait. It was his time then. Be patient. Sometime it's going to be *your* time."

6:54 One by one, the people in the room introduce themselves. "My name is _____. I'm a tenant."

"My name is _____. The bank foreclosed on my home."

"I'm _____. Foreclosure."

6:58 One man, new to the meeting, hesitantly introduces himself. "I'm a homeowner."

"And you've been foreclosed on?" asks Steve Meacham, City Life's tenant organizing director, from the front of the room.

"Yes. And I found out after the fact. I have a court appearance on Thursday."

"You can talk to an attorney here tonight," Steve tells him.

6:59 "I'm _____. Tenant."

"I'm _____. This is my first time here. I've been fighting this for two years. I'm at my wits' end. But I'm still in my house. And I'm going to keep fighting."

Mary nods. "Let me tell you, tonight you came to the right place."

Applause.

7:02 A woman says, "I'm _____. And I'm facing foreclosure."

Steve says from the front of the room, "BCC made an offer to buy your place, but the bank is proceeding with foreclosure without even responding. That's not going to be allowed."

7:09 Tenant organizer Melonie Griffiths delivers a speech that's partly an introduction to City Life and partly an empowering pep talk. "We help families in the Boston area fight displacement and gentrification. We help people stay in their homes by any means necessary."

7:14 Cell phones ring. Children run in and out of an adjoining room, where there's pizza. The speech continues. "A lot of people think when they get that first notice from the bank, it's time to leave. But we say



A Photo by Joan Wickersham.

to the bank, 'Go ahead and foreclose. We're not leaving.' We use the sword and the shield. The shield is Boston Community Capital. The shield buys us time. But if the shield doesn't work we go back to the sword. If people are threatened, we join hands and do a vigil or a blockade. Success is any time you stay in your house longer than the bank says you can. Even an extra month can be a good thing, if that gives you a chance to find someplace else to stay."

7:20 Tenant organizer Jim Brooks talks about the bill recently passed in the Massachusetts Senate that extended from 30 days to 90 days a tenant's right to stay after a foreclosure. "It passed because of you. Because you got up and told your stories. This is a major victory."

7:30 Jim asks: "How's everybody feeling?"

"Great," the audience replies politely.

"Doesn't sound like it."

"Wonderful!" someone shouts.

"OK," Jim says. "What do we do when the banks attack?"

This galvanizes the crowd. "Stand up!" they shout, jumping to their feet.

"Fight back!" They sit down again.

7:30 "What do we do when the banks attack?"

"Stand up! Fight back!"

7:30 "WHAT DO WE DO WHEN THE BANKS ATTACK?"

"STAND UP! FIGHT BACK!"

The room erupts with cheers.

7:40 The crowd has split into several groups. Some people meet one-on-one with volunteer lawyers about upcoming court cases. Some are in the main meeting room discussing political strategies. Out in the hall, several newcomers sit in folding chairs in a circle, as Jim explains basic legal rights and strategies. "How many people here are homeowners?"

All raise their hands.

7:41 "OK, can a bank evict you for not paying your mortgage?" Jim asks.

"Yes," a woman says.

"On my street," a young man says angrily, "there are six houses in foreclosure. The minute the first one happened, mine went into the garbage."

Jim nods, then repeats the question.

"No," another man answers quietly.

Jim: "That's right. Only a judge can evict you. Not the bank. You get your day in court."

7:46 Jim explains that you don't have to hand over your keys to the bank. "You have a lot of rights. Most people will do anything to avoid foreclosure, but we say: let it go into foreclosure. You have more negotiating rights after foreclosure than before. We do a PR campaign on your behalf. We say, 'This person has done nothing wrong. They just want to pay a mortgage or rent based on the fair value of the home.'"

7:50 "Yeah," the angry man says, and launches into a rant against banks.

Jim listens, then interjects: "What I'm hearing from you is a lot of righteous anger. That's good. The bank wants you to feel alone, and guilty, and ashamed. You can come in here, express that anger, cry, get energy from your peers. Fight back."

7:52 Jim explains that City Life has a relationship with a fund—BCC—that will assess properties, buy them from the bank, and then sell them back to homeowners at a fair value. "You have to write a public letter. Not a hardship letter, but a letter telling who you are, how long you've lived

here. Your history, your community, your kids. CC it to the mayor. It's bad PR for the banks. People get to know your story, and say, 'We don't want to invest our money in that institution. We don't like the way they're treating Mr. and Mrs. So-and-so.'"

The angry man says, "They already print your name in the paper. There's that little column every week that says, 'Foreclosures.'"

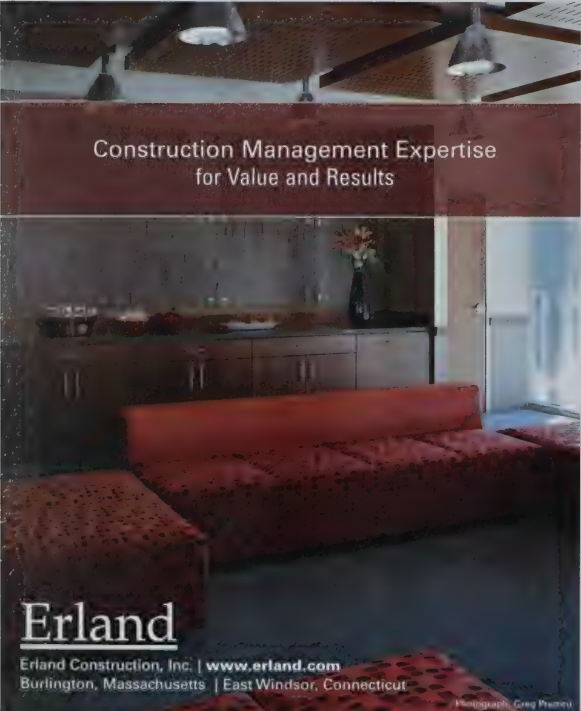
"This is different," Jim says. "This is putting a face on it. The bank is a business, a building. It doesn't have a face. The banks don't want you to become the face of what they're doing."

7:53 Jim: "The bank will offer you cash for keys. Here's \$5,000 for your keys. How does that sound to you?"

A woman, who has been taking notes on a yellow pad, answers, "Lousy."

"You're right," Jim says. "That's a cheap buyout."

7:55 "OK," Jim says. "Next step is a notice to quit. You have 72 hours to leave your property. What should you do?"



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A man says, "Wait for an eviction notice from the court."

"Very good. They will highlight the word 'QUIT.' And a lot of people get scared and run."

7:57 Another man asks a quiet question about his own situation. "Every case is different," Jim says, and advises him to run it by one of the volunteer attorneys tonight.

7:58 "The next step is a notice to appear in court," Jim looks at one of the men. "What part of the city do you live in?"

"Dorchester."

"OK, so do you show up in Dorchester District Court?"

"Yes."

"No," Jim says. "Before the hearing, you want to get it transferred to housing court."

7:59 It's hard to hear what Jim is saying. There are kids running through the hall, a man yelling into a cell phone nearby, loud voices from the political meeting in the big room. He is explaining the importance of asking for discovery, a transfer to housing

court, and a jury trial. "You're sending a message to the other side that this is not going to be a cheap buyout."

8:02 Jim talks about the public letter. "It's a way to practice telling your story. We had one woman who had a 48-hour notice—we thought we were going to have to do a blockade. But she went to court and told her story in a way that made the judge practically break down, and the lawyer from the other side said that maybe we could work something out. She put aside her shame and told her story."

8:10 A couple talks about how they've tried to get someone to help them renegotiate their mortgage with the bank. "Nobody cares, nobody wants to hear it."

Jim: "There are a lot of vultures out there. You have to go to a nonprofit."

8:11 "Someone asked me for \$1,900 for a modification," a man says.

Another says ruefully, "For me it was \$3,000."

Jim says again, "There are a lot of scams."

8:12 The angry man: "I've done this, I've done that, I've jumped through hoops..."

Jim: "It's stressful. It takes a toll on marriages. On people. You feel alone and stressed."

The man jabs a thumb at his wife. "She stresses me out. She says her Aunt Mary got this and her Uncle Joey got that. I don't want to hear it."

Jim says, "This movement is about love. There's a lot of help here. This stuff is corrosive. It does awful, evil, terrible things to people. We have to be there for each other. It's the bank that's your enemy, not your wife."

8:25 It's time to rejoin the larger group. The homeowners put away their notepads and carry their folding chairs back into the meeting room. Jim follows, but stops to listen to one last question.

"You should speak to one of the lawyers before you leave tonight," Jim tells the woman gently. "Every case is different." ■

Joan Wickersham's website is:
www.joanwickersham.com.

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PARTICIPANTS

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David Gamble AIA, AICP is an architect and urban designer and the principal of Gamble Associates in Boston (www.gambleassoc.com).

Shauna Gillies-Smith ASLA is a landscape architect and the principal of Ground in Somerville, Massachusetts (www.groundinc.com).

Wendi Goldsmith is the founder and CEO of Bioengineering Group in Salem, Massachusetts. She is a certified professional geologist with additional degrees in ecological landscape design and plant and soil science (www.bioengineering.com).

Elizabeth Padjen FAIA is the editor of *ArchitectureBoston*.

Laura Solano ASLA is a landscape architect and a principal of Michael Van Valkenburgh Associates in Cambridge, Massachusetts (www.mvvainc.com).

Elizabeth Padjen: The last time *ArchitectureBoston* devoted an entire issue to landscape architecture was in 2003; our roundtable discussion was titled “Burying Olmsted.” At that time, much of the buzz in the profession was focused on what might be called the artful landscape: landscape *cum* art installation. But the participants in that roundtable also mentioned Millennium Park in West Roxbury — where soil from the Big Dig was used to cap an old landfill — as an example of cutting-edge thinking about ecological landscapes, and they bemoaned the lack of attention such projects were receiving. It’s astonishing to see how the profession has changed in just seven years — not only in terms of the kinds of projects that are gaining wide recognition, but also in terms of a new focus and a new energy. Terms such as landscape urbanism, ecological urbanism, and agricultural urbanism are now commonplace and are even leaking into the public lexicon. One of our editorial board members recently stated, “Landscape is suddenly the most relevant player.” Let’s start by talking about this new excitement. Where does it come from?

David Gamble: More and more, the public recognizes the fragility of the environment — look at the recent floods in Nashville and the oil spill in the Gulf. Part of the landscape profession’s rise to the top is due to the general recognition by the public that landscapes are living organisms and that we need to think very carefully about how we inhabit our environment. This increase in consciousness has helped landscape architecture play a much larger role in the public’s eye than it might have otherwise.

Laura Solano: Landscape architects are especially skilled in understanding systems, and that’s why we are deeply involved in this search for an ecologically responsible life. It’s easy to say that this focus has suddenly boiled up, but in fact, it’s been a long time coming. Frederick Law Olmsted, in the 19th century, understood systems perfectly; his talents were multivalent: he was a civil engineer, a surveyor, and an author, as well as a landscape architect. In the early to mid-20th century, Jens Jensen and Aldo Leopold were writing about these issues, but there wasn’t an audience. And then Ian McHarg blew the doors open in 1969 by introducing the idea of ecological planning.

Wendi Goldsmith: Olmsted espoused the merit of Central Park long before other people ever imagined today’s development pressures. Yet he rallied people behind a vision and was very clear about doing it for reasons of air quality, exercise, civic interaction, and creating a shared space that would reinforce community. His design of Boston’s Emerald Necklace was intended to solve some very practical stormwater flooding management problems. Both projects place landscape architecture at the foundation of what we now call sustainable community design.

Shauna Gillies-Smith: The public has long understood that landscape architects work with living elements. But a recent and significant shift is that we are starting to realize that cities are also living organisms, so the systematic thinking that has been part of the landscape discipline is now being translated to new strategies for the urban condition as well.

Jill Desimini: And of course, landscape architects bring an understanding of people and the designed experience. That means they are skilled at making spaces that work for their inhabitants that also address the complexities of urban, ecological, and infrastructural systems.

The High Line, the transformation of a 1.45-mile-long elevated freight rail line into a public park on Manhattan’s West Side. Designers: Field Operations and Diller Scofidio + Renfro. Photo by M. Altamura.

ARCHITECTURE AND LANDSCAPE ARCHITECTURE

Elizabeth Padjen: The tectonic plates of the design professions seem to be shifting. I wonder if the rise of landscape architecture means that something has changed in the ligatures that tie the professions together or if it's evidence of fundamental differences in the ways that the disciplines respond to the challenges of the world today.

David Gamble: It's partly because of the vacuum created by the departure of the architects. Architects haven't been thinking about larger-scale connections and about relationships to key topographic and environmental conditions or special places in cities in which the landscape is really what's most valued. Landscape architects have found a way to take over much of that territory by engaging themselves directly in those issues.

Jill Desimini: We like to think of projects as functioning in many ways — socially, economically, environmentally — apart from how they look. Of course, many architects do, too. But, having been trained in both architecture and landscape architecture, I would say there is a real difference in the complexity of the landscape medium and the ways in which landscape architects think about how various systems might come together. A good example is the project by Stoss for the Lower Don River in Toronto [see pages 38 and 41]. A traditional urban-design approach might have considered the river as an entity to be squeezed into an urban fabric. Instead, Stoss asked, What does this kind of river need in order to function? The designers weren't trying to adapt it to the city fabric and then figure out how to deal with the flooding that comes later. The challenge became how to structure the city and the neighborhood around the river. If you give the river the kind of mouth that it needs, if you understand that you'll have fluctuating water levels, then you start to think in terms of different types of land use and you can start to develop a set of performance criteria both for the river and for the neighborhood and open spaces. Various elements start to work on multiple levels but also together in a unified, sustainable whole.

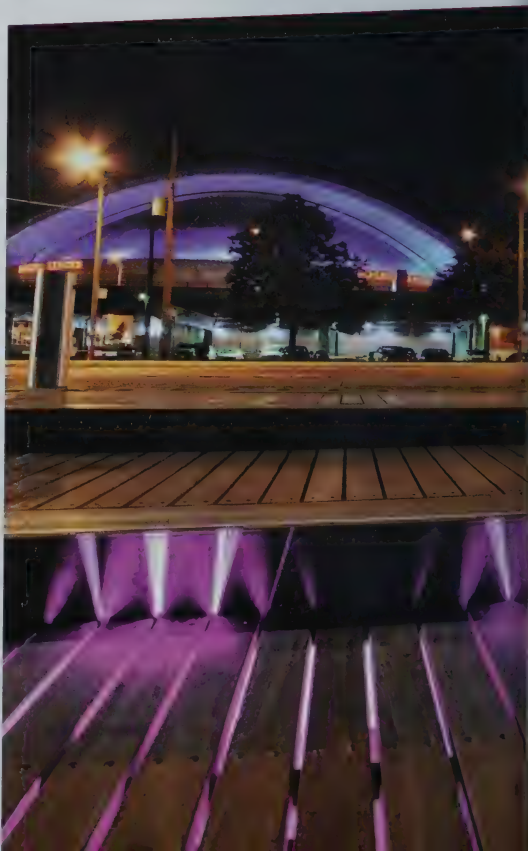
Laura Solano: The example of designing for fluctuating water levels underscores an important distinction between architecture and landscape architecture, which is that architecture usually doesn't have to deal with something that is inherent to landscape: change, which is the driver for all natural systems, for better or worse. The arc of time and change are fundamentally different factors in the landscape design process.

Sauna Gillies-Smith: Something that makes landscape architecture particularly resonant right now is its verb-like quality, in comparison with some earlier, more architecture-oriented urban models, like New Urbanism — all very intelligent, but really about organizing a city or town around a more static structure. Contemporary landscape architecture is much more interested in the systems and the forces and the flows, so it is a more active approach toward designing landscapes and urban systems. As we start to re-recognize that we are connected to the larger ecological world, we realize we need a model that can respond to an ever-changing world, not just one in crisis.

Wendi Goldsmith: I think that's right. The whole green design movement started with a focus on energy systems within the building: insulation and the efficiency of HVAC systems. And then, bit by bit, it grew to include water use, glazing, building positioning, which then evolved into new ideas about things like light and lighting, water conservation and reuse, and integrating graywater management with building plumbing. Fairly quickly, sustainable design started to bleed into the landscape and to encompass infrastructure, including power generation, and people began to understand that it's not just about the building and what goes on inside it: We need to look at what goes on outside, on site, and what goes on beyond the site. Now we're thinking about buildings in relation to the grid, to watersheds, and to water supplies. What I am observing is a new relationship, maybe eventually a new field, where science and engineering and landscape design all merge. Our society is just beginning to recognize the value in such an approach.

The emphasis in landscape urbanism should be on the urbanism.

Jill Desimini





Simcoe and Rees WaveDecks, Toronto, part of a series of three multifunctional public walkways along the waterfront. Designer: West 8 + DTAH. Photos: West 8 urban design & landscape architecture.

URBAN DESIGN AND LANDSCAPE ARCHITECTURE

Shauna Gillies-Smith: Landscape typologies have evolved to a fair degree, and landscape architects today feel that they can take on a much larger territory than was their traditional purview: designs for entire regions or decommissioned airports or large post-industrial sites or whole infrastructure projects. That's by necessity, because landscape systems don't end at the property line. I always have a hard time making the distinction between landscape architecture and urban design, probably because I've been trained in both fields, but I think that is one area where they are different: It's very hard to put a circle around what defines a landscape.

Elizabeth Padjen: Is the landscape architect encroaching on the traditional turf of the urban designer? Do you envision the end of urban design as a discipline, perhaps being absorbed by landscape architecture?

Shauna Gillies-Smith: That could be a very politically dangerous idea to agree or disagree with, depending on your perspective. Clearly, both disciplines will continue to evolve. I just finished teaching what turned out to be a very exciting studio. It was called an urban design project, but it addressed landscape, ecology, and environmental dynamics. The project site was on a floodplain with a daily tidal fluctuation of about six feet; we also projected an additional rising water level of six feet over 100 years. So the students had to think simultaneously about accommodating fluctuating water levels and about creating urbanism. Typically,

when we think of zoning, we think of it in a horizontal way, or as vertical envelopes of height limits. But the most critical aspect of this project was the first 10 feet of the city. The challenge was to design that sectional relationship intelligently, to foster a vibrant urban life on a ground plain that must accommodate so much natural variation.

David Gamble: The design professions in general have done themselves a disservice in trying to delineate distinct territories and in believing that a project needs to begin with the urban planner, then go to the urban designer, then the architect, then the landscape architect, and so on. That type of linear thinking is one reason why we haven't been able to foster strong interdisciplinary collaborations. Major design competitions around the world now tend to be dominated by teams including very diverse disciplines, such as landscape architects, planners, economists, and historic preservation architects, because there is so much interdisciplinary discussion that needs to occur when you look at complex urban areas. I do think that the architecture profession today has much greater respect for a landscape architect's sense of process than it did a generation ago. The work I'm doing in China now as an architect is entirely in the service of a landscape-architecture firm that is planning large regions of the country. It's a scenario that stems in part from the client's intuitive understanding of the nature of their ecosystems and the desire to work with their natural settings, which requires the landscape architect's understanding of geography and place.

Laura Solano: And that's not an unusual scenario anymore. Clients are unbelievably sophisticated now, and they do their homework in terms of the composition of the teams they hire. In my office, we are the prime for about 80 percent of our work, big and small. Many of our teams have 12 or 15 consultants, often representing narrow areas of expertise: planners, architects, historians, ecologists, soil scientists, hydrologists, and biologists. Strong collaborations offer tremendous educational opportunities.

LANDSCAPE URBANISM

Elizabeth Padjen: Landscape urbanism is at least partly responsible for the profession's new energy. What exactly does it mean?

Laura Solano: Charles Waldheim, who is now the chair of the department of landscape architecture at Harvard, coined the term. He has said: "Landscape urbanism describes a disciplinary realignment currently underway, in which landscape replaces architecture as the basic building block of contemporary urbanism."

Elizabeth Padjen: That's a shot across the bow. What are some examples?

Jill Desimini: I'd like to respond first by saying that at the core of landscape urbanism is the idea that looking at, understanding, and designing urban processes will lead to making a new kind of city that is capable both of self-regenerating and of changing the way

Architects haven't been thinking about larger-scale connections and relationships to topographic and environmental conditions. Landscape architects have found a way to take over much of that territory.

David Gamble AIA, AICP

we experience the place we live. The emphasis in landscape urbanism should be on the urbanism. With that in mind, I would point to Toronto, which has hired a number of landscape architects as leads for very big projects that are changing that city, especially the waterfront. These include West 8's reconfiguration of the central waterfront, work by Field Operations on Lake Ontario Park, and the design by Michael Van Valkenburgh Associates for the Lower Don Lands as a new metropolitan precinct. Landscape architects are also working on large projects in other cities. New York's Freshkills Park project—the transformation of 2,200 acres of landfill on Staten Island into a new public park and urban habitat by Field Operations—is another example of an innovative approach to revitalizing and repurposing a piece of the urban fabric. The key now is to focus even more on the design of the city itself. Landscape urbanism positions landscape and landscape methods as a driver for urban infrastructural change.

David Gamble: Part of the momentum also comes from the shifting economics of cities. More and more cities over the last generation have been looking to old industrial sites or waterfronts as places to grow; large parks become the catalysts that drive economic redevelopment.

Elizabeth Padjen: But the idea of landscape, particularly in the form of public parks and open spaces, as a catalyst for development



isn't new. You can even find it codified in the 16th-century Spanish Laws of the Indies that was the basis for town planning in the Spanish colonies: put the square in the middle of the town and build out around it. What's different?

Shauna Gillies-Smith: Landscape urbanism takes another approach — more profound in some ways — and looks at a larger force, a river, for example, as a generator of urban form and urban typology.

Jill Desimini: David is right that many cities are revitalizing industrial sites, and a lot of them are on waterfronts and thus have an ecological component. The difference is that landscape urbanism starts with looking at these sites in terms of the environmental systems that can serve as generators for the project.



The renewed interest in ecology and sustainability in landscape architecture: Above, the Connecticut Water Treatment Facility in New Haven, Connecticut, contributes to a larger ecological and open-space system. Left, Teardrop Park at Battery Park City, Manhattan, incorporates organic soils and uses graywater and stormwater for irrigation. Landscape architect: Michael Van Valkenburgh Associates. Architect for water treatment building: Steven Holl Architects. Photos by Paul Warchol.

Laura Solano: It's about healing; taking derelict or brownfield sites and making them useful. We take a piece of land that nobody cares about any more, and turn it into something that people can identify as a place that has personal meaning and community value.

Shauna Gillies-Smith: I think it's important to not conflate landscape and parks. It's true that the idea of building a public park that is a catalyst for development is an old trick. But only part of landscape is parks. Part of it is plazas. Part of it is open space. And part of it is the system of stormwater management that gets built into our streets, into our yards, into our housing units. What is exciting about landscape urbanism is that it can define new types of space that not only accommodate ecological systems, but also define ways that we as individuals can relate to landscape and to ourselves in different ways.

Wendi Goldsmith: Not long ago, the words "landscape urbanism" would have sounded like an oxymoron. We worked on a project recently with Laura's firm and with the architect Steve Holl that is a perfect example of this change in thinking. This project involves brownfields restoration, a large public-works facility including a major green-roof project, the preservation of some public open space, and programming that includes a significant public education and events component — all while making very tangible contributions to natural habitats in the south-central Connecticut region. It completely merges architecture and engineering and landscape architecture. I can't think of any earlier examples in the US with the same level of interdisciplinary entanglement. The hydrology of the site accommodates these major functional components, but reverts the site back to its pre-development "water budget" in terms of its hydrological performance. So there's this incredible melding of function and beauty and education that also transforms a stigmatized landscape into something that sets the stage for a new pattern of development in the region.

THE SCHOOLS

David Gamble: A number of design schools have been very strategic about raising the profile of landscape architecture within the school, which is reverberating within the field itself. More landscape-architecture programs are opening up, in part because some leaders in the profession are finding ways to excite a new generation of students who want to shape the physical environment. They're raising the profile of the profession from within the academic community.

Elizabeth Padjen: Conversely, the schools must also be responding to a market interest.

Shauna Gillies-Smith: All of us who are in academia know that it's the students who are really driving the sustainability agenda. No question about it. And that generation's interest in the environment is one of the really big pushes behind recognizing, first of all, that our world isn't static and, second, that we need to find a different way of working with it instead of against it.

Laura Solano: One of my students gave a presentation on a recent project in Korea that turned 600 acres of landfill into a park. The park ended up as a reflection of the trash pile: it was essentially a pyramid with the top cut off. This student's discussion centered around what might have happened instead if a landscape architect had been involved from the beginning: there would have been a grading plan for placing trash, there would have been systems to promote decomposition, and the nearby wetlands would have been engineered to support a river watershed. These kinds of issues capture the attention of students; they know that there are huge problems to solve, and they know the answers lie in innovation.

ROSE KENNEDY GREENWAY

Elizabeth Padjen: Let's say that, instead of having just been completed, the Greenway project is just now in the concept phase and the initial planning has been undertaken by a team of landscape urbanists. What are some of the substantive changes we'd be seeing?

Shauna Gillies-Smith: One obvious answer is that there would be a very clear, probably somewhat artful but potentially also didactic, approach to stormwater, so that one would actually see how water is moved and treated. We would probably also see some form of urban agriculture — not necessarily community gardens, but perhaps some form of urban foraging.

David Gamble: I suspect that the engineering for the tunnels would be done in the service of a much larger vision of connectivity and continuity. Whatever you think about whether or not there should be development along the Greenway, there is still a very painful sense that it is not as robust in its role as it should be.

Jill Desimini: It could perform in so many different ways. It could even have a greater social or economic agenda. Right now, it's very neutral, and there's nothing very neutral about a landscape-urbanist vision.

Shauna Gillies-Smith: Thinking of it as a landscape in isolation — what you would do to decorate the top of the tunnel — is fundamentally not a landscape-urbanist approach. Thinking of the whole tunnel and the buildings along each edge in conjunction with the landscape, ecology, and the social program is much more appropriate to a landscape-urbanist approach.

Laura Solano: There have been so many disastrous tries at linking architecture and landscape along the Greenway; it suffers for a lack of integration. But I'm convinced that, over time, it's going to be redone, because we know it's not right. The Greenway Conservancy is doing some useful and valuable things, like organic maintenance and developing a tree farm to supply trees for the Greenway, but management can't fix the things that are inherently wrong with it.

Wendi Goldsmith: This is a case where some of the most important concerns were put last on the list. Lots of people other

It is important to recognize the significance of the constructed landscape. Most people think of landscape as the backyard garden or the national parks. *Shauna Gillies-Smith ASLA*

than landscape architects, let alone landscape urbanists, were calling the shots. And so, many other aspects of the project crystallized before there was actually anything resembling a final program for how the Greenway would operate, or how it would look and function.

David Gamble: The Greenway has served a purpose of sorts. All across the country, cities are facing similar problems of deteriorating highways and infrastructure and are recognizing the value of trying, even at a smaller scale, to take advantage of new opportunities to reconnect their cities. Other cities will learn some lessons from what happened in Boston and try to do it in a more synthetic way.

Elizabeth Padjen: If we were to re-do the Greenway now, I suspect we would keep part of the superstructure of the old Artery and rework it as an artifact or walkway.

Laura Solano: I agree with you. There was something sublime about driving up over the city streets.

Shauna Gillies-Smith: That sublime quality is one of the appeals of New York's High Line, along with a nostalgia for the big old industrial superstructure as you're floating through the city. And the elements are beautiful: the furniture is beautiful, the planking is clever and smart, and the planting is rich and a strong contrast to the more controlled environment. There's no question that the High Line would have influenced thinking about the opportunities for the Greenway.

BURYING OLMSTED, AGAIN

Shauna Gillies-Smith: I want to re-visit the idea of burying Olmsted, because it is important to recognize the significance of the constructed landscape. Part of the interest for me in the High Line isn't so much the aesthetic of it, although it's an amazing place, but that it calls into question what landscape is, and it calls into question the naturalization of landscape. When most people think of landscape, they usually think of the backyard garden or the national-park backgrounds in TV ads for SUVs. But by recognizing that what we are creating in both our green spaces and our hard spaces is a constructed landscape, we are held to a different standard. Our roads are landscape: they are designed landscapes. Our sidewalks, our traffic medians, our rooftops are designed landscapes. We learn to ignore them. But there is a lot of economic and design investment in all of those elements. The importance of burying Olmsted is that we need to recognize that our landscape is completely constructed, and that consequently, both our landscape and our work as designers must be held accountable. ■

STUDYING LANDSCAPE ARCHITECTURE IN NEW ENGLAND

It's a growing discipline, so to speak. Applications are up. Course offerings have exploded. A number of new programs have recently launched, or are about to. Is this just a fad, or is something more significant taking hold?

Sustainability, global warming, amplified environmental awareness — contemporary concerns may be prompting this increase, along with the building industry's rising attention to a structure's larger environment. In education as in the profession, landscape architecture is embracing the entire built world.

As in architecture, landscape architects in the US must hold a professional degree — a Bachelor of Landscape Architecture (BLA) or a Master of Landscape Architecture (MLA) — from an accredited institution before taking registration exams. Many of these schools are consciously reconsidering what it means to educate landscape architects today, and retooling their programs dramatically.

In addition to the professional degree programs, there are many routes to serious study, including undergraduate liberal-arts minors, pre-professional programs, post-professional programs, and adult-ed night classes. Even institutions that don't offer landscape "programs" — such as MIT, Wentworth, Mass College of Art and Design, and Connecticut College — are offering new landscape classes as well as expanded interdisciplinary courses on related topics like environmental justice or public horticulture.

It's a lively time to be in school.

1900

Harvard Graduate School of Design

Department of Landscape Architecture

Charles Waldheim, chair

www.gsd.harvard.edu/academic/la

Degree: MLA

Harvard, the first institution to approach landscape architecture as an academic discipline, is still examining "design at the intersection of urbanization, environment, and contemporary culture," with a strong new focus on landscape urbanism.

1903

University of Massachusetts at Amherst

Department of Landscape Architecture

and Regional Planning

Elizabeth Brabec, department head

www.umass.edu/larp

Degrees: BSLA; MLA

UMass, with its long attention to "sustainable communities" and "protection of the land and natural resources," now includes environmental justice, cultural accessibility and significant outreach initiatives in Holyoke and Springfield.

1942

Rhode Island School of Design

Department of Landscape Architecture

Mikyoung Kim, department head

<http://landscape.risd.edu>

Degree: MLA

Characterizing landscape architecture as a creative discipline bridging nature and

culture, RISD emphasizes interdisciplinary collaboration and design across scales, from watersheds to material details.

1968 (began at Radcliffe College)

2002 (moved to Arnold Arboretum)

2009 (new affiliation with the BAC)

The Landscape Institute at

the Boston Architectural College

Heather Heimarck, director

www.the-bac.edu/landscapeinstitute

Certificates offered in landscape design, landscape preservation, landscape design history, and planting design.

Through courses, workshops, and certificate programs, the Landscape Institute "stimulates creative design and stewardship," and is soon to be expanded online.

1972

Conway School of Landscape Design

Paul Cawood Hellmund, director

www.csld.edu

Degree: MA in Landscape Design
Conway is a 10-month, full-time, non-professional graduate program for those interested in "ecologically and socially sustainable design of the land."

1985

University of Rhode Island

College of the Environment and

Life Sciences

Landscape Architecture Program

Will Green, director

www.uri.edu/cels/lar

Degree: BLA

URI emphasizes sustainable communities, materials, and practices, along with a growing attention toward the developing world.

1998

University of Connecticut

Department of Plant Science and

Landscape Architecture

Mary Musgrave, head

www.plantscience.uconn.edu/la.html

Degrees: BSLA; MLA

Though recently accredited, UConn has offered landscape design and planning courses for many years, grounded in a department with a 130-year history of plant science and horticulture.

2001

Smith College

Landscape Studies

Ann Leone, director

www.smith.edu/landscapestudies

Degree: BA with LSS minor

The first of its kind at a liberal-arts college, Smith's interdisciplinary Landscape Studies minor draws from art, engineering, the humanities, and the sciences "to investigate... how we shape our world."

2010

Boston Architectural College

School of Landscape Architecture

Kevin Benham, head

www.the-bac.edu

Degrees: BLA; MLA (beginning fall 2010)

Though the BAC has long offered landscape courses, the new accredited professional degree programs focus on "research and education in the context of Boston and its surrounding areas" and follow its tradition of work/study education.

2011

Northeastern University

School of Architecture

George Thrush, director

www.architecture.neu.edu

Degree (anticipated): BLA

Beginning in September 2011, Northeastern's new "urban landscape" program strategically creates curricular, research, and faculty overlaps with architecture — perhaps the first new program to be based on the principles of landscape urbanism.

LET THEM EAT KALE

*The growing interest in urban agriculture
means we need to think about the city in a whole new way.*

BY DOROTHÉE IMBERT

The media moment is lasting. First ladies and queens — Michelle Obama, Queen Elizabeth II, and “Queen of Cuisine” Alice Waters — have endorsed kitchen and allotment gardens for their nutritional and educational values. *The New York Times* and *Financial Times* regularly report on urban agriculture, “edible schoolyards,” foraging, and gleanings. Organizations such as Growing Power in Detroit hold on to the limelight, its founder Will Allen knighted with a MacArthur (“Genius Award”) Fellowship, and its greenhouses, composting facilities, job program, and tilapia tanks duly documented in videos and articles. The business world has taken notice too: New Urbanist Andrés Duany states that “agriculture is the new golf,” and a financier aims to convert 20,000 acres of Detroit’s vacant land into farmland. Whether as shorthand for sustainable land use or a loophole to acquire land inexpensively, urban agriculture and the associated idea of “the productive landscape” are central to the current discourse on the quality of life in and around cities.

Urban agriculture is about not only food, but also sustainability, health, social justice, and money. It can mean many things to many people. Hydroponic skyscrapers in cities like New York promise a bounty of tomatoes within easy reach of office workers. Strategic interventions within so-called shrinking cities such as Detroit and St. Louis seek to revalue urban land while bringing fresh produce to “food deserts” — neighborhoods without access to grocery stores offering fresh produce. Suburban developments advertise the inclusion of agricultural land as a conservation measure, a means to guarantee “safe” local food, and to satisfy our longing for a pre-agribusiness countryside. In cities like Kampala, Uganda, and Rosario, Argentina, urban agriculture is part of a participatory design process that integrates housing programs. Given this

diversity of meanings and applications, urban agriculture begs for a site-specific and scale-specific nomenclature. It is a feel-good concept in need of a critical framework.

The interrelationship of city and food, both in production and consumption, has a long history. The Mesopotamian city of Uruk, founded in 3500 BCE, relied on a system of flood protection and irrigation to yield dates, legumes, and grains to support its population. Versailles offers a more recent example, and one still visible today. There, Louis XIV expressed his integrated vision of garden design, urbanism, and food production. To the south of the château, the king’s kitchen garden, or *potager du roi*, featured 22 acres of ornamental vegetable beds and walled orchards. Just as spatially compelling were the *murs à pêches* (peach walls) of Montreuil, at the opposite end of Paris, whose now barely productive traces bear witness to their mark on the collective memory. Though somewhat of a cliché, the inextricable ties between culture and cultivation — semantically and conceptually — can be witnessed across societies from the floating gardens of Xochimilco’s *chinampas*, near Mexico City, to the *hortillonages* of Amiens, in France.

As the city displaced food production from its center, the relationship between living, working, and eating became more abstract. Landscape architecture was not central to early 20th-century architectural debates, yet a number of planners and designers sought to redress urbanization and crowded cities with a productive landscape system. German garden designer Leberecht Migge’s polemics were a call to arms for food self-sufficiency. Migge promoted an integrated housing-garden unit where greenhouses, vegetable beds, walls, and pergolas spatially extended the minimum dwelling and supplemented



^ Above and next page: The thermal mass of the *murs à pêches* (peach walls) in Montreuil, Seine St. Denis, France, created protected environments for espaliered peach trees, typically grown in more moderate climates. First constructed in the 17th century, the walls remain in one small district (center and upper right of photo) of the modern city outside Paris, once famous for its peaches. Satellite image by TerraServer.

the family diet with a carefully calibrated output of foodstuff. Three decades later, Danish landscape architect C.Th. Sørensen took a more emotional and more modest stance. Based on his observation that apartment dwellers had lost their primordial relationship to the ground, his 1948 design for the Naerum allotment gardens created a dreamlike landscape that would reconnect man with the medium of dirt. The garden ovals cascade down the slope, their hedges allowing for a multitude of cultivation endeavors, both communally and privately.

The argument for self-sufficiency embodied in the allotment garden and community garden rested on an economic and moral rationale. The penury of war, the pressure of oil dependency, and economic recession have periodically prompted a yearning

for food security and proper nutrition, and/or employment. To some, the current surge in urban agriculture projects reflects a phase as temporary as the World War II victory gardens, the UK's Women's Land Army (which put women to work on farms during World War I and II), and the 1970s' embrace of organic gardening, do-it-yourself structures, and *Whole Earth Catalog*. Others contend that the new urban farmer represents a more enduring commitment to social justice and better nutrition in a better environment. Urban agriculture is in fact the product of both a top-down revolution and grassroots movements. The somewhat elitist desire to transform the relationship of Americans to food, the nostalgic collective memory of Jeffersonian agricultural ideals, the myth of old Europe, and the

preservation of landscape through agritourism are all gathered in today's "delicious revolution" and "slow food" movement. Conversely, urban agriculture rests on models tested in the developing world. The informal, opportunistic, impromptu, yet essential gardens and plots in the cities of Latin America and Africa contribute a large percentage of the local food supply. Likewise, the community gardens of West Philadelphia are crucial in strengthening the economic base, as well as the physical and mental health and cultural identity of the community.

Just as microloans have attracted global banks, urban farming and growing food as a means to ensure physical, mental, and ultimately economic health have come to the attention of the business world. Venture capitalist Woody Tesch put food economics and local production at the center of his 2008 book *Inquiries into the Nature of Slow Money: Investing As If Food, Farms, and Fertility Mattered*, thus bringing attention to the Slow Money movement and the "nurture-capital" industry.

Recently, corporations have returned to the production of food as part of their operating structure. In a trend reminiscent of the paternalism of company towns, corporations such as PepsiCo and Google have introduced company gardens to the workplace: employees, or sometimes corporate departments, are given access to on-site vegetable plots in order to boost morale, develop team spirit, improve employee health and well-being, support food banks, or even to improve cafeteria fare. (Response varies and is perhaps best described as mitigated enthusiasm.) On a larger and supposedly more public scale, the 20,000-acre Hantz Farms in Detroit promises to "rejuvenate [the] city by returning to its agrarian roots ... and putting property back on the city tax rolls." A commercial venture, it will use conventional methods to grow crops that include Christmas trees. Advertised as a win-win proposition, this "plantation" has already raised the specter of land-grab among community activists, given the critical importance of land tenure in urban agriculture.

The contemporary enthusiasm for urban agriculture presents a paradox: zoning regulation, olfactory and sound control, and moral opprobrium have erased almost all traces of food production within most Western cities. This contradiction reveals the difficulty of integrating agriculture into urban systems and the need for landscape architects, planners, and community activists to tackle policy. The perception of urban agriculture as a temporary land use for disenfranchised inner-city populations is also likely to hinder its potential to form a new type of open space.

It would be well worth reevaluating the mid-20th-century division between ornamental and productive landscapes, from an educational as well as an economic standpoint. As heirs to both agricultural and urbanism traditions, landscape architects are uniquely situated to bring the aesthetics of "third nature" (the garden) back into a new urban "second nature" (the farm). Productive open space will gain acceptance as an essential component of sustainable urbanism through highly visible pilot projects. The inclusion of an urban farm in Harvard University's plan for a new campus across the Charles River would have performed such a role, had construction not been halted. The proposed Allston campus offered an ecological, spatial, and social laboratory to test ideas about urban agriculture. The



< Aerial photo of
murs à pêches,
circa 1930, courtesy
www.mursapeches.org.

interconnection of a productive and didactic landscape and urban spaces would have demonstrated Harvard's commitment to sustainability and progressive development and taken landscape architecture and urbanism in a new direction.

But other opportunities are emerging. The 2009 proposal by Michel Desvigne and Jean Nouvel for "Grand Paris" carries implications for the redefinition of the suburban-rural interface. The periphery of Paris offers the opportunity to develop a new type of productive landscape, one performing simultaneously as an open-space system for the hyper-individualistic suburban tracts and as a test plot for the agricultural belt that lies beyond. Desvigne describes the 500-mile joint of varying width as a *lisière* — a term for a forest edge or a seam. Traces of a long-gone farming landscape — hedges, ditches, thickets, and paths — and an infrastructure of greenhouses, allotment gardens, recycling, energy production, composting, and sports fields organize this seam. Strictly codified, it is a terrain for exchange and experimentation, a means to make the landscape accessible to all users. In this scenario, planned indeterminacy hems the suburbanization of the countryside and allows agriculture to reenter the urban environment.

In such theoretical scenarios, urban agriculture offers the potential to recalibrate the social, economic, and spatial balance. It is the designer's role to underscore the importance of urban agriculture as a designed open space with wide-ranging implications. And it is the politician and planner's role to acknowledge it as a new landscape system, one that is aesthetic, productive, and sustainable. ■

Dorothee Imbert is the chair of the Master in Landscape Architecture program at the Sam Fox School of Design and Visual Arts at Washington University. She is the author of *Between Garden and City: Jean Canneel-Claes and Landscape Modernism* (University of Pittsburgh Press, 2010), *The Modernist Garden in France* (Yale University Press, 1993), and *Garrett Eckbo: Modern Landscapes for Living*, co-authored with Marc Treib (University of California Press, 1996/2005).

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For better or worse, digital technologies — smartphones, LEDs, social networking — are changing our cityscapes.

by Andrzej Zarzycki

Wall to Wall: The

"Foursquare is all about helping you find new ways to explore the city. Earn points and unlock badges for discovering new places, doing new things, and meeting new people."

This message greets you when you download a smartphone application from one of the popular online social-networking sites. To increase its functionality, the app links you automatically with your Facebook friends and Twitter feeds. The message encourages you to join a virtual club of urban dwellers and promises exciting new possibilities. By monitoring your activities through your phone's GPS, the app alerts you when friends are nearby, showing their location. It also helps you to map daily routines, comment on venues, and learn from anonymous contributors. On occasion, it gives you a personal insight into private arrangements within the public realm: Navneet Alang, a Toronto-based blogger for *This Magazine*, writes about his favorite tip from Foursquare, which suggests asking a waiter at a certain restaurant for "the secret pink menu." "You could call it a new approach to urban discovery, one that takes the online mantra of 'by the people, for the people' and mixes it with happenstance," he adds.

Digital technology increasingly, and more and more seamlessly, bridges the physical landscape with virtual environments to form visually rich and emotionally engaging narratives. Mobile devices serve as portals to enter and navigate multimodal landscapes. Geographic data, pictures, and brief commentaries merge into a single data-based landscape. The distinction between the actual and virtual, or the permanent and temporal, fades when seen through the screen of a smartphone. Similarly, the distinction between the built and the conceptual is blurred with the integration of LED and projection technologies into architectural façades, effectively transforming previously static façades into dynamic media objects. Landscape becomes a continuous interface between

these urban media façades and the ever-expanding use of digital devices with interactive content. Interactions and experiences that in the past were predominantly confined to art-gallery installations or online chat rooms become Main Street events with broader participation and authorship. While perceived by some as invasive and overreaching, media participatory landscapes could also help us to reclaim the public realm and democratize its content.

Media façades

Media-infused urban spaces such as New York's Times Square, or to a greater degree the Ginza and Shibuya neighborhoods of Tokyo, expand their content into mobile communication devices and often merge with the online experience. This is not limited to their visual identities or content delivery methods; these urban spaces often redefine a message and authorship within a public domain. By doing so, they create opportunities for, though not necessary guarantees of, greater public participation.

Building on the increasing role of mobile devices in people's everyday lives, many initiatives have attempted to capture this new audience and functionality. A recent ad campaign by Microsoft allowed random users to contribute a short phrase about their use of personal computers to "I'm a PC" advertisements. Each respondent's photograph and phrase were later displayed on one of the media façades in Times Square, giving the participant 15 seconds of global visibility. This moment of personal visibility was further documented by a webcam, fed into an online gallery, and sent to the contributor in a personalized e-mail. The entire process effectively established a communication loop from mobile device to media façade and back to mobile device. Although this was a commercial campaign, it established an operability that could be easily adapted to social activism and other purposes.

A night photograph of a city skyline, likely Helsinki, with various buildings and lights visible. A large, glowing green digital cloud shape is superimposed in the dark sky above the city. The title "Digital Landscape" is written in a green, sans-serif font across the middle of the image.

Digital Landscape

Green Cloud (*Nuage Vert*), Helsinki, by
HeHe. Image based on original photo by
Antti Ahonen.



Interactive Power Station "Shooting Star" project, Brussels, by Magic Monkey. Photo © magicmonkey.net.

Architectural responses

Most commercially driven media façades are simple projection or display screens superimposed on an exterior wall without considering architectural design. They often are seen as design eyesores that desperately cry for public attention. Recently, however, more buildings have incorporated media components into their façades in ways that do not compromise design. In the Graz Art Museum, Peter Cook and Colin Fournier introduced "communicative display skin" that features a large, low-resolution media façade. Their design relies on abstract patterns with pixelated text or graphics, treating the media component as yet another building skin and augmenting it with a textural reading. This approach allows media content to enhance a structure's appearance and to communicate a message or convey a building's functional content without compromising its design integrity. In other projects, media screens and projection lighting elements change the three-dimensional perception of an immobile object, as seen in works by digital-media firm NuFormer. Temporal façade alterations can inform, entertain, or simply showcase a work of architecture in new ways, continuing a tradition of public artists such as Krzysztof Wodiczko.

Furthermore, media façades create an opportunity to redefine the relationship between a building and the public realm. In contrast with the Modernist dictum of a façade as an expression of the inner functional or structural logic of a building, these projects connect it back to historic practices, which considered a façade as an enclosure of a public space.

Social activism

Just as graffiti, posters, and handbills have historically appropriated the façades of private structures for public speech, so have media-enhanced landscapes already begun to extend beyond commercial use or aesthetic considerations into the sphere of social discourse and activism. The implications are profound: nothing less than the transfer of the public domain back from corporate ownership to public authorship. Equally profound is the opportunity for individual expression similar to that found in online environments. An example of this form of public discourse is a Dutch project, the D-Tower by artist Q.S. Serafinj and architect Lars Spuybroek (NOX), which maps the emotions of the inhabitants of the city of Doetinchem and expresses them through an interactive art installation. This installation relies on the input of voluntary collaborators; because the data are not analyzed or sampled statistically, the work is purely a subjective form of expression. The "Green Cloud" art installation by HeHe (Helen Evans and Heiko Hansen) confronts contemporary environmental issues, displaying energy usage by Helsinki residents. Exhausts from a power plant are used as a screen for media projections, directly correlating the visual presence of the "green cloud" image with the amount of energy produced. This adaptive installation continues to remind residents of the role they play in energy conservancy. The Green Cloud successfully integrates the ephemeral qualities of landscape with the effective use of digital media. Both installations illustrate social, emotional, or environmental data using an interface that puts residents into the position of active content creators, thus shifting their role from consumption to authorship.



D-Tower interactive public artwork project, Doetinchem, Netherlands, by artist Q. S. Serafijn and architect Lars Spuybroek (NOX) with Pitupong Chaowakul, Chris Seung-woo Yoo, and Norbert Palz. Photo courtesy NOX.



Graz Art Museum media façade, Graz, Austria, by Realities:United in collaboration with Spacelab Cook Fournier and ÖBA Architektur Consult. Photo by Peter Pakesch/Landesmuseum Joanneum/CC BY-NC-ND 3.0.

The distinction between the actual and virtual, or the permanent and temporal, fades when seen through the screen of a smartphone.

In contrast to these anonymous contributions to public discourse, the recent Interactive Power Station “Shooting Star” project by Magic Monkey drew upon the urge to claim authorship of individual expression. “Create your own Shooting Star and share your wish with your loved ones and the millions of commuters!” encourages a Web advertisement for the project, which was installed during the December 2009 holiday season in Brussels. The Shooting Star project allowed contributing individuals to customize their holiday messages, using the Electrabel Power Plant cooling tower as a canvas for the animated LED installation. The response from the public was high, with the project attracting over 5,000 contributions within a 20-day period. The Interactive Power Station project built upon concepts previously developed in two others: Toyo Ito’s “Tower of Winds” in Yokohama, which used light as a masking device for an industrial site, and the “I’m a PC” campaign in Times Square discussed earlier, which incorporated open online public participation.

The need

As digital media, and especially media façades, assume a more prominent role in contemporary architecture, there is a growing need for research and for creative models that demonstrate enriching and meaningful integration of this technology into the urban environment. A number of questions emerge for architects and designers. How can the integration of new technologies with architecture and landscape create spaces that evoke new experiences, touch us emotionally, and help us feel at home? How can media-rich architecture and landscapes provide new answers for the needs of a mobile and globally connected society?

These are the issues we need to address in the next decade, or life—in the form of commercial enterprise—will answer them for us. The question is not whether we like or dislike the extension of media content into architecture and landscape; the digital media landscape, in the form of advertisement and corporate identity, is already here. Instead, the challenge is to direct its development toward the aesthetic benefit of our urban environments and the cultural and political benefit of our society. ■

Andrzej Zarzycki is an assistant professor in the College of Architecture and Design at New Jersey Institute of Technology (NJIT). His work as a designer and researcher focuses on media-based environments and the use of digital tools to create experiential architectural spaces. He is a co-winner of the SHIFT Boston Ideas Competition 2009.

BLINK

Photographs by **Keith Johnson**

It's almost a cliché: a landscape takes time. The knowledge that their work may take years, even decades, after construction to fully realize their design intention puts landscape architects on a sort of moral high-ground. Such patience! Such determination! Such delayed gratification! The rest of us feel slightly shamed in the face of such worthiness. Impatience is a common vice.

Recent photographs by Keith Johnson, however, offer a new understanding of landscapes: they have an intermediate life, a larval stage, when they in fact behave as landscapes even though they have not yet assumed their final form. These are the landscapes of process and construction, their materials — hydroseed, sod rolls, hay bales, geotextiles — as familiar as rhododendrons and cobblestones.

The photographs on the following pages were made between 2003 and 2008, part of a body of work that Johnson describes as examining “the ways we claim, construct, create, and recreate space in the pursuit of development.” These, too, are designed sites, although their aesthetics are most often determined by some anonymous hand, with results that are often, in Johnson’s words, “marvelously goofy.” Who chose the aqua and teal hues of hydroseed — and did they imagine we would mistake it for natural groundcover? Who designed the ubiquitous orange oval-mesh fencing, thus ensuring that the spirit of 1970s supergraphics would never die?

This suggests a new middle ground, so to speak. In the past two decades, landscape architects have begun to address “everyday” landscapes, claiming parking lots and median strips as extensions of their professional realm. But the temporary landscape of process — a mere blink of an eye in the lifespan of a project, but an eternity in the collective banality of everyday places — has received little attention. It’s a whole new land of opportunity.

— Elizabeth S. Padjen FAIA

Keith Johnson is a photographer in Hamden, Connecticut. He received his MFA from Rhode Island School of Design, where he studied with Harry Callahan and Aaron Siskind. His work has been widely exhibited and is included in the collections of George Eastman House, RISD, Center for Creative Photography, New Orleans Museum of Art, Library of Congress, University of Oklahoma Museum of Art, Free Library of Philadelphia, Photographic Society of America, and Samuel P. Harn Museum of Art. His recent exhibitions include the Atelier Gallery at the Griffin Museum, Panopticon Gallery, and the Garner Center at New England School of Photography. For more information: www.keithjohnsonphotographs.com





▲
Buffalo, New York
2006



▲
Monroe, Connecticut
2005

Webster, New York
2005

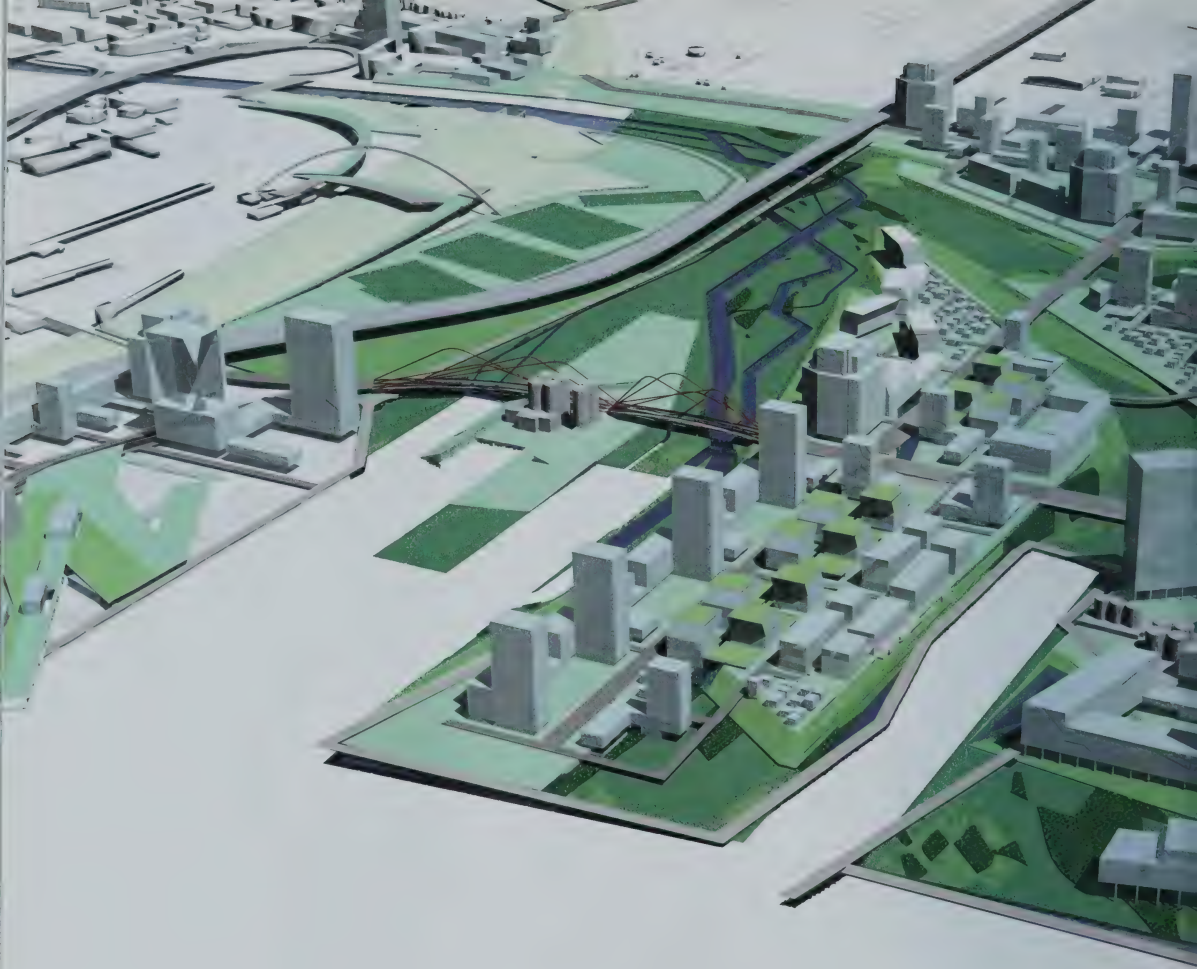




▲
Chicopee, Massachusetts
2008

New Haven, Connecticut
2007



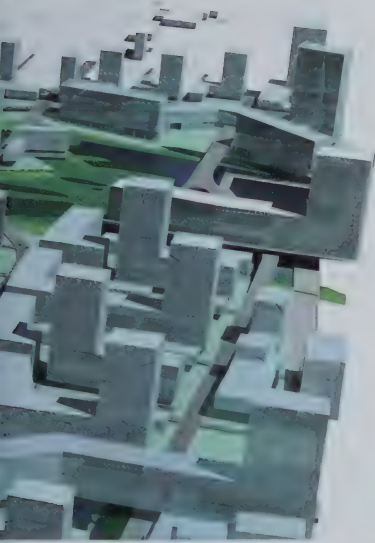


GROUNDSWELL

The rise of landscape urbanism

Charles Waldheim talks with Jeff Stein AIA

Opposite and page 41: The competition proposal for the Lower Don Lands project in Toronto by Stoss (Chris Reed, principal) incorporates principles of landscape urbanism to revitalize a waterfront district at the mouth of the Don River. Renderings © Stoss.



Charles Waldheim was appointed chair of the department of landscape architecture at the Harvard Graduate School of Design in 2009, where he is also the John E. Irving Professor of Landscape Architecture. He is the author or editor of numerous publications, including *The Landscape Urbanism Reader* (Princeton Architectural Press, 2006) and *Constructed Ground* (University of Illinois Press, 2001). He was previously the director of the landscape architecture program at the University of Toronto and in 2006 was the recipient of the Rome Prize Fellowship in Landscape Architecture at the American Academy in Rome.

Jeff Stein AIA is head of the School of Architecture and dean of the Boston Architectural College.

Charles Waldheim photo by Siena Scarff/Urban Agency.
Jeff Stein photo by Liz Linder.

Jeff Stein: For centuries, architects have been making buildings and cities — designing what are literally the building blocks of urban environments. Today, as architects talk about greening the cities, their focus is still essentially on those building blocks. But lo, here comes the notion of landscape urbanism, which suggests a completely different approach to the urban environment: the city as a living thing. This sounds like the beginnings of the right solution at the right time.

Charles Waldheim: Landscape urbanism began about 15 years ago as a way of trying to describe what was already going on within urban design and landscape practices. The primary complaint has been that landscape architects are taking market-share away from urban designers and planners, but frankly, the urban design and planning realm has been slow to recognize the increasing importance of environmental factors.

Jeff Stein: Of course, urban design itself is a fairly new discipline, starting in this country after World War II, and using Mediterranean cities of the classical world as precedent — cities that sometimes aren't the best working models for cold climates like ours.

Charles Waldheim: Urban design, to describe the discipline very simply, proposed that the city was an aggregation of buildings. Architecture was seen as fundamental to the city not only as a kind of spatial construct but also as a social and cultural one: If we could get enough buildings organized in a sympathetic way, then we might aspire to the city as a cultural form.

Jeff Stein: Even though automobile-related media — streets and roads and parking lots — in American cities take up as much as 50 percent of the ground plain.

Charles Waldheim: That's actually the basis for one of the critiques of current planning practice that has come out of

landscape urbanism. If you have a culture that is fundamentally automobile-based, then an urban model that is anti-automobile is counterintuitive at best. There's a strange precept these days that asserts that people will abandon their cars if we simply build cities that don't accommodate them.

Jeff Stein: Is it fair, then, to say that landscape urbanism isn't design-based? Landscape urbanism talks about process, a framework for looking at the city as a living, changeable entity.

Charles Waldheim: I wouldn't go so far as to say that it's not about design, but it is a different medium. Instead of using buildings as the medium of design, we're using landscapes. That means infrastructure, public space, open space. But part of what you say is true: it's much more comfortable with open-endedness. It argues for ceding certain forms of control to other kinds of controls. For example, landscape urbanism would argue against controlling the heights of buildings and maintaining the continuity of the street wall, which are tropes that come out of an idea about urbanism that overstates the social and environmental benefits of density. Density is a correlate of economic orders: mass automobility, decentralized industrial networks, and private land ownership rights have driven urban form in North America toward lower density.

Jeff Stein: It's true that creating density can be difficult when many American cities are shrinking, especially those in the Midwest. Cleveland and St. Louis are both half the size they were 40 years ago, and Detroit — where you did some work early in your career — is the poster child for the shrinking city; it is actually demolishing buildings.

Charles Waldheim: If our model of urbanism depends upon aggregating buildings for its spatial framework, then it is fundamentally problematic that most of us live in the suburbs. Detroit became a very useful venue for my research when I was

teaching at the University of Michigan: little serious work had been done on it, and it was a great example of how an industrial economy drives a form of spatiality. Detroit allows us to look at the story of globalization, economic shifts, and the spatialization of economic powers.

The majority of metropolitan Detroit's population of five million lives in the suburbs in a relatively affluent condition; the population of the city itself has shrunk by half or more and is economically struggling. The idea of shaping the city through buildings doesn't make much sense, so Detroit has become a good case study for thinking about landscape urbanism in terms of urban shrinkage. Shrinking cities have been largely an academic concern in the United States, but they have been taken up by the German federal government post-reunification. In fact, the Germans have done the most work on shrinking cities, from both the ecological and the design side, and have funded serious high-level federal research.

Planning bureaucracies are often fighting the last war, if not two or three wars ago.

Charles Waldheim

Jeff Stein: It seems that much of landscape urbanism is focused not on inner cities but on that edge between the densely urbanized center-city and the semi-rural suburb, in which office parks and manufacturing facilities have come and gone, leaving behind brownfields and empty parking lots.

Charles Waldheim: One of the reasons landscape urbanism took hold was that it could be useful as a generalized theory of urbanism in the contexts of both shrinking cities and suburbanization. If automobility is the baseline for your culture; if the majority of the population doesn't live in cities but in suburbs; if you have a culture in which buildings are increasingly disposable because they are of less and less cultural and material value; then landscape emerges as the spatial medium in which you need to work. It used to be that corporations listed buildings as assets and, of course, they still do on financial statements. But they rarely see them as civic assets any more. In the '70s and '80s, signature buildings on the skyline were associated with corporate identity. Then, with the increase in mergers and acquisitions, corporate identities started to change so fast that investments in buildings, especially to promote corporate identity, made less sense. We have the case of the Sears tower, for example, which is no longer about Sears.

Jeff Stein: Or, in Boston, the John Hancock tower.

Charles Waldheim: Right. So now we see corporations pulling their names off buildings and onto stadia because you can buy and sell the naming rights to a stadium irrespective of where your front office is. The flux of capital is happening so much faster than the rate at which buildings change, that it's very difficult to make buildings the kind of iconic civic signifiers that they used to be.

Jeff Stein: And in fact, many of our civic signifiers — those things that somehow define or enrich or give value to the public realm — don't seem to work as they once did. For example, landscape urbanism seems to focus on the creation of public space, yet what is meant to go on in that public space? How do we make it viable and meaningful when so many people connect to one another and to events electronically rather than physically? You mentioned the increasing rate of change. How do you design for an indeterminate urban future?

Charles Waldheim: Certainly one of the challenges of landscape urbanism has been this notion that we've somehow lost the capacity to project desirable public futures apart from private capital sources. You could say the canonical works of landscape urbanism come from the European welfare state: their high-speed rail systems or the Dutch dike systems — big infrastructure projects in which there's a landscape or ecological component. But in North America, we've generally lost faith in the ability of public institutions to deliver public space. Increasingly, we rely on private development — in the form of both the philanthropic donor culture and private real-estate development — to deliver not only private space but also the public realm. Landscape urbanism tries to grapple with that, but also suggests that we can have new forms of public spaces that derive from actual city-making, with a strong environmental component addressing environmental toxicity, brownfield sites, and the complexity of climate change. They don't have to look like a 19th-century city, which has been one of the limitations of the discourse around urban design. And in a context where we don't have strong leverage over landowners, in which municipalities are competing with each other for scarce tax revenue, and in which capital is increasingly mobile, the challenges are real.

Jeff Stein: Beyond its design implications, landscape urbanism relies on some meaningful science, especially in terms of environmental and ecological systems. The Boston Architectural College is working on a green alley project behind our building. Not only will it lessen the heat-island effect in that spot on a sunny day, but it will also help to recharge the groundwater under the Back Bay. We think of it as a little bit of landscape urbanism.

Charles Waldheim: Part of the appeal of landscape urbanism is its comfort with incompleteness: small-scale projects such as yours can aggregate and eventually make a difference. Other theories of urbanism or design have tended to need great unifying gestures or continuity.

We do have quite a lot of science available. Adapting it to the urban environment — for example, restoring ecological diversity — can be a challenge. That said, I would say that the greater challenge is that we must work within a policy framework and with public-sector planning bureaucracies that are often fighting the last war, if not two or three wars ago. So a part of my goal is to educate professionals who can work across these boundaries.

Jeff Stein: What are the possibilities for this sort of undertaking in the realm of professional practice? Are we doing more than just talking about them? Are there actual projects that reflect this approach?

Charles Waldheim: These are not theories that we invent in the academy and then try to throw into practice. Quite the reverse: a part of landscape urbanism is trying to theorize, after the fact, transformations that have already happened in practice. Over the last 20 years, as architects and urban designers struggled with urban form, complex remediation techniques, ecological challenges, and sustainable building techniques, landscape architects were increasingly recognized for the skill set that they bring to the project team.

I realized landscape urbanism was going to take off when I saw that, if you were in the suburbs outside St. Louis or Chicago, and you had 15 professionals in your firm, and if you were doing what urban planners used to do, you were probably a landscape architect. There's a whole generation of planners who are no longer physical designers, because post-'68, the planning discipline largely abandoned physical planning.

Jeff Stein: It became refereeing.

Charles Waldheim: Yes — it focused on policy and public process and a lot of other important things. But in that tradeoff, planners no longer had the ability or the interest or aptitude, generally speaking, to deal with spatial issues. Urban designers were very committed to a particular model of the 19th-century city, and therefore weren't comfortable with or weren't suited to the problems of the places where most of us lived and worked: the suburbs. So landscape architects emerged to take that on, without any kind of fanfare or theory behind them, just on a day-to-day basis.

Jeff Stein: It's interesting that you yourself are actually an architect. And here you are now, in charge of a landscape program.

Charles Waldheim: My own career path is kind of an exception. But it's also true that the majority of the proponents of landscape urbanism are doubly trained; I would even say it is a characteristic. They often share a combination of training in ecology or landscape and a training in high architectural culture. Chris Reed [Stoss] would be in that list, as would James Corner [Field Operations] and Adriaan Geuze [West 8].

Jeff Stein: You were an architecture student at the University of Pennsylvania, which was home to Ian McHarg, the landscape architect who is widely credited with making connections among landscape architecture, planning, and the environment. Were you one of his students?

Charles Waldheim: He was a professor emeritus, retired but still in the building, although I never studied with him. It was a very interesting place just then, with a range of people talking about the city from different points of view and different disciplinary frameworks.

But Ian's work is undoubtedly what people have in mind when they pose one of the most important questions about landscape urbanism: Well, isn't this just what we've been trying to do for 50 years? Haven't we been aspiring to make better planning decisions, better spatial decisions, about environmental forms for the social justice of our cities? And I would say yes, but the



great heroic Modernists — Ian McHarg at the University of Pennsylvania, Carl Steinitz at Harvard, and others — tended to spatialize ecological data with the expectation that we would make better planning decisions. Those projects have been wildly successful, but they've run into something of a dead end because, broadly speaking, we've decided not to plan any longer. Ian's work on regional ecological planning — the McHarg project, let's call it — benefited enormously from the idea of the welfare state and the understanding that the public sector would use its ability to take land and to organize space. It's one of the great ironies — or perhaps one of the great tragedies — of the McHarg project that the moment that his work began to flourish in the late '60s to early '70s was precisely the same moment when we began to dismantle the welfare state in North America. We now have more ecological knowledge than we've ever had, more scientific knowledge, more ability to apply spatial reasoning, yet we somehow lack the ability as a culture, at least in the US, to make spatial decisions.

Jeff Stein: We do have more ecological knowledge and understanding, but I would add that it's not confined to trained professionals. Americans in general have a broader and more sophisticated understanding of these issues today.

Charles Waldheim: And the rising general literacy and interest in environmental and ecological topics have certainly supported this. But I would also stress that landscape urbanism was developed in some ways as a direct critique of New Urbanism.

Jeff Stein: I've noticed in the literature put out by the Congress for the New Urbanism that they themselves embrace landscape urbanism. Yet they're still, it seems to me, mired in the picturesque. Landscape urbanism is more about — I hate to use these terms directly adjacent to each other — design science. There's a scientific basis for this work that brings a level of complexity to the understanding of the city that we haven't quite had before.

Charles Waldheim: That's a fair assessment. We used to consider environmental science as separate from design culture. Among the strange bedfellows of the present day are these hybrids, and landscape urbanism is one of them, where design culture intersects with ecological knowledge, a combination of two things. This is the essential difference from previous similar forms of practice. In the past, there was a desire for the divergence and professionalization of separate realms. It's certainly true that in the 19th-century understanding of landscape — if you look at the Back Bay Fens or Olmsted's work in Central Park, for example — you see that landscapes and parks were perceived to be an exception to the city. The pastoral, picturesque landscape tradition in America is characterized by the park as a place apart from the city, both morally and physically. Whereas landscape urbanism argues quite the contrary, that the city is itself a place of natural flows, and human beings are embedded in those flows. Landscape urbanism is much more interested in the synthesis between models of the natural world and the shape of the city, as opposed to a contrast between the city and the natural world.

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Jeff Stein: That was the sort of thing that McHarg was doing, though. He made the distinction between city and country.

Charles Waldheim: I think this is actually one of the great limitations of that model, in addition to its vulnerability because of its dependence on the welfare-state public-planning bureaucracy. The McHarg project was very good about deciding where not to build, and then identifying certain places where one could build, but McHarg rarely got to the precise characterization of how to build and in what forms. So he persisted with this idea that there was city and not-city, and of course the moral story was all too simple: the city is bad and the not-city is not bad. We're fatigued these days with that kind of simple morality tale.

Jeff Stein: Almost every publication about landscape urbanism mentions that you coined the term in the early 1990s. Yet you talk about others, James Corner comes to mind, who were doing work on this before you. There's a certain continuity that you fit into.

Charles Waldheim: It's intellectually honest, but also good etiquette, to acknowledge one's debt to those who went before. There were Europeans who were writing — significantly, in English — about why landscape was important in the American city; there was also a similar interesting discourse in Australia. Mohsen Mostafavi, now the dean at the GSD, and James Corner at Penn were also trying to describe this thing. From my perspective, I'm happily surprised that anybody paid attention to this marginal

academic exercise. Now we are seeing an interest in ecological urbanism, which represents both a critique of the failings of landscape urbanism and a continuation of its aims, in perhaps more precise terms.

Jeff Stein: The GSD has been trying intently to develop landscape architecture as a powerful intellectual discipline.

Charles Waldheim: This department is the oldest and most distinguished of its kind in the world — I'm not being boosterish, because that's objectively true. So my appointment was an enormous honor.

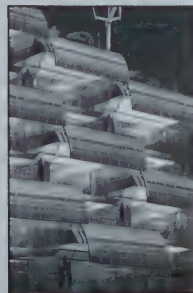
Jeff Stein: You want to move it forward. Which way is forward?

Charles Waldheim: My appointment was one of four made in the past year; Chris Reed, Pierre Belanger, and Anita Berzbeitia have joined me, and we will make six new appointments this coming year. For a very small department to have 10 new hires in the space of two years, especially in this economic climate, is I think without precedent. So, without making any claims about what we're going to do next, I would say, stay tuned. Because if you can arrange 10 new hires in a relatively small field, something interesting is likely to happen. ■



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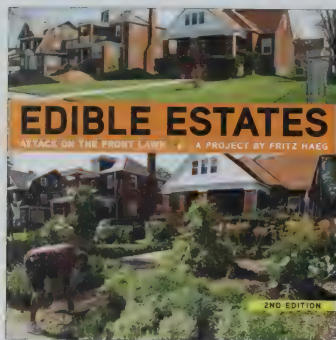
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EDIBLE ESTATES:

ATTACK ON THE FRONT LAWN

By Fritz Haeg, with texts by Will Allen, Diana Balmori, Rosalind Creasy, Michael Pollan, Eric W. Sanderson, Lesley Stern, et al.
Metropolis Books, 2010 (second edition)

Rarely does a manifesto so thoroughly convince readers of its adversary's virtue as does Fritz Haeg's *Edible Estates: Attack on the Front Lawn*, now in its second edition. The title advertises affirmations that our garden is, indeed, holier than thy lawn, but the book's nostalgia for a nation's starry-eyed egalitarianism is unexpected, equally surprising in that it might be the most persuasive element in Haeg's argument.

The American lawn is, at its heart, an assertion of our democracy. Conceived as a vast, lush, open space roamed freely by children and maintained by diligent citizens whose tidy homes are embedded in it, the lawn symbolizes the collective, protected only by neighborly obligation—no aristocrat's high garden walls here. It's a vision first laid out by Frederick Law Olmsted at his Riverside, Illinois development in 1868. Decades after it unfurled west and east, the costs mount: our crowning monoculture demands water, labor, petroleum, and pesticides at alarming rates.

Fritz Haeg is the founder of the Edible Estates Project, which proposes nothing less than "the replacement of the domestic front lawn with a highly productive edible

landscape." Haeg helps us see that we may be clinging to the lawn as a symbol, even as it proves to be an inefficient vehicle for the ideals it represents, and encourages us to consider edible gardens as a more effective expression of those ideals.

Six thoughtful essays, cultivated on their own 10-page plots, present context and history on the lawn/garden balance, including a healthy dose of criticism. Haeg traces the lawn from English estates to Jefferson's Monticello to sprawling suburbs, hopeful that front-yard gardens can fulfill our desire to make our families, neighborhoods, country, and planet healthy and sustainable. Michael Pollan follows with a clear articulation of the lawn's cultural significance, which forms the basis of a compelling argument for their tilling. Lesley Stern lingers on failings that haunt lawn culture and American democracy by extension, implicating slavery and Jeffersonian hypocrisy. A page later, Rosalind Creasy shares how her front-yard garden began as a solitary endeavor but soon became the nucleus of her community. She is surprised that she reached not just her national audience of gardeners, but her own neighbors as well.

Detailed case studies of regional prototype gardens follow, providing inspiring can-do examples from the everyman suburbs. Selected accounts by front-yard gardeners not formally part of the Haeg's project are also included; one hails from Needham, Massachusetts. The second edition has added notable new gardens, such as the White House kitchen garden and a garden at Manhattan's Hudson Guild, which draws upon that island's Native American past to suggest a future.

The double-income, soccer/piano/karate lifestyle may or may not accommodate a gardening revolution. Even so, a few hours with this book will challenge the fundamental assumptions we make as individuals and as a nation.

Conor MacDonald is a writer in Boston and works for the BSA (www.conorjamesmacdonald.com).



GREAT PUBLIC SQUARES:

AN ARCHITECT'S SELECTION

By Robert Gatje
W.W. Norton, 2010

Robert Gatje is one of the most successful architects you've never heard of. A partner of both Richard Meier and Marcel Breuer, he has written one previous book, a memoir of his time with Breuer. In it, Gatje writes as a keen, if not terribly critical, understudy of the man known to his friends as Lajkó.

Great Public Squares treats its subject in a similar fashion: as a detailed and appreciative examination. Though not incisive or exhaustive, it serves well as a basic sourcebook. The author has drawn the squares at the same scale and orientation, and his data on their dimensions (hiding out in the last two pages) reveal tantalizing details. Who knew that Rockefeller Center and Michaelangelo's Campidoglio share similar shapes, orientation, and width-to-length ratios?

Though the book is limited to the US and Europe, a handful of little-known gems qualify as great, among them Fountain Square of Hippocrates (Rhodes, Greece), Piece Hall (Halifax, England), and Place des Cornières (Monpazier, France). Gatje dutifully scopes out such megastars of urban space as St. Peter's in Rome and St. Mark's in Venice, but farther off the trampled path, he introduces us to the Münsterplätze of

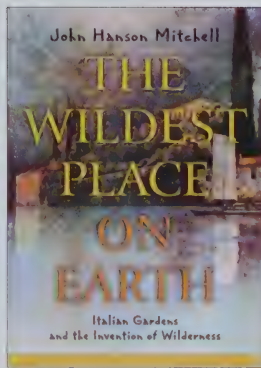
Freiburg and Ulm, Germany; the Jardin du Palais-Royal in Paris; Louisburg Square in Boston; and Pioneer Courthouse Square in Portland, Oregon—all effective urban designs spanning the 14th to 20th centuries.

Gatje's intent is also to update scholarship by Camillo Sitte (*Der Städtebau*, 1889) and Paul Zucker (*Town and Square*, 1959), whose groundbreaking analysis treated the "organized space" of squares as an artistic creation essential to urbanism. Like Zucker, Gatje considers urban squares to be outdoor rooms, defined as much by their ceiling (the sky plane) and walls of buildings as by their layouts.

So it's curious that his drawings are limited to plans, whose color-saturated pavements, fountains, trees, and café awnings are purposeful but cartoonish; heavy black poché spilled into the building footprints further distracts from the negative spaces Gatje wants us to see (the diagrammatic mappings and overhead perspectives in Ed Bacon's *Design of Cities* are more compelling). There are no axonometric or perspective drawings bringing the squares to three-dimensional life, so ground-level holiday snapshots have to suffice for experiential detail.

Even so, *Great Public Squares* is an accomplishment. Its simple but ambitious aim of collecting these inspirational spaces into a single volume, drawn with consistent scale and technique to invite comparison, has been fulfilled. Gatje's text explaining the origin and current use of the squares strikes the right balance between research and readability (the unusually critical section on St. Peter's Square is especially insightful), and the 35 selected locations are diverse enough for a study that is serious without being overwhelming. With a graphic reboot, *Great Public Squares* would itself be a great work.

Ian Baldwin teaches architecture at Roger Williams University.



**THE WILDEST PLACE ON EARTH:
ITALIAN GARDENS AND THE INVENTION
OF WILDERNESS**

By John Hanson Mitchell
Counterpoint Press, 2001

Some books stay with you: they talk to you, persuade you, and change your view of the world. *The Wildest Place on Earth: Italian Gardens and the Invention of Wilderness* argues for an embedded connection to wilderness, wildness in all of our constructed landscapes. Accepting the argument would change how we build—and what we preserve.

John Mitchell is the author of 10 books and countless essays and, since 1980, the editor of *Sanctuary* magazine, published by the Massachusetts Audubon Society. His books and essays are thoughtful, funny, often a little sad—and sometimes almost irritatingly encouraging. I can think of no better companion on a journey to explore the connection between the built and natural worlds.

The Wildest Place on Earth is a very personal, and delightfully erudite, tour through the idea of gardens from prehistory to today, an exploration of the wildness in what we have termed "wilderness." Pan, the half-man, half-goat god of mysterious places is the guide, and the Italian Renaissance garden, with its mixture of culture and wildness, is the destination.

For much of human history,

wilderness was thought of as a separate reality, a place apart. But, as our perceived dominion over the earth increased, we began to include a representation of wildness into our constructed environments. English designers attempted to transform the landscape into a romanticized notion of wilderness, but early Italian designers chose to leave a section of their gardens untouched, an admission of the futility of ultimate control. Now, there is no part of our planet that we have not observed and very little that we have not walked. When we walk, we make a path, and with a path we transform wilderness to landscape. Our world has become a garden; now we must decide upon a design.

Our transformed world is unpredictable and often threatening. John Mitchell was tempted to retreat. He withdrew to a house in what a visitor dubbed the "Great Forest" and hoped the changing world would pass him by. It didn't, so he moved on. He built another garden, wrote some more, and advanced the dialogue about the design decisions before us.

Today, many of our landscapes are merely obsequious accessories to the buildings they accompany. What if we reversed the equation so that our landscapes preserved and represented the natural world—and our buildings took their cues from the landscape? What if we could walk out of any building and follow a path through a garden to Pan's domain?

Thoreau argued that in wildness is the preservation of the world; Voltaire concluded that we should tend our garden. John Mitchell persuades us that in a garden, an Italian garden, is the preservation of the world.

David Parish was formerly the director of housing and community investment for the Federal Home Loan Bank of Boston and a member of the board of directors of the Boston Society of Architects. He and his wife Shirley tend a garden in South Natick, Massachusetts.

Covering the Issues

Cityscapes... *Fast Company* (May 2010) offers multiple visions for the urban future. In the print magazine, the annual “Fast Cities 2010” list highlights progressive ideas already in place—a smart power grid in Boulder, innovative neighborhood redevelopment funding in Savannah, artist housing in Boston. Online, Greg Lindsay reports from the 18th annual Congress for the New Urbanism convention where the US Department of Housing and Urban Development announced that it will rate projects for “location efficiency” (such as residential density and public-transit access) and the new LEED-ND principles when it makes its \$3 billion funding decisions this year; HUD aims to influence the entire housing market. In “Save the Cities, Save the World,” Lindsay reports on urban designer Peter Calthorpe’s similar ambition. Calthorpe is developing software that “quantifies the savings in CO₂ and dollars” when development follows denser urban patterns. The analysis will inform debate over California’s proposed legislation to reduce emission levels (a model for national policy), while it makes an economic case for urban planning as part of the solution to climate change. Finally, in “New Urbanism for the Apocalypse,” Lindsay describes New Urbanism founder Andrés Duany’s spin on the urban-agriculture idea: “agrarian urbanism.” Imagine a golf-course community jettisoned to the early 19th century: instead of 18 holes, developers would simply finance greens of a different sort.

Furnishing ideas... In “Herman Miller’s Design for Growth” (*Strategy + Business*, Summer 2010), Bill Birchard presents an in-depth look at the innovative management practices of this office-furniture giant. Calling it “participatory management,” Herman Miller gives business workshops to employees at all

levels, issues bonuses for team effectiveness, and leads ongoing research on the future of the workplace, as it develops new products—like LED walls—that strive to address practical problems rather than fitting into pre-established product categories. From Charles and Ray Eames to Boston’s Sheila Kennedy, Herman Miller has long collaborated directly with architects and designers. In designing furniture, it has also designed a company.

Consider the spider... Spiders make silk that is ounce-for-ounce stronger than steel, without blast furnaces. What if, instead of traditional “heat, beat, and treat” ways of making things, we were to take cues from the natural world? “Nature is the Model Factory,” argues Michael Freedman in *Newsweek* (online, May 28, 2010). He chronicles current architectural and material science research: self-cleaning properties of lotus leaves are being studied for exterior paints; airflow in a new non-air-conditioned building in Africa is modeled after termite mounds; forest canopies and tree roots are being analyzed to inspire roofs and foundation systems, respectively. It’s a wild and wonderful world.

Polling data... “What is the most important piece of architecture built since 1980?” *Vanity Fair* (August 2010) asked 90 leading architects, educators, and critics. Their runaway winner? The Guggenheim Bilbao by Frank Gehry. One respondent likens the influence of this single work to Le Corbusier’s 1923 manifesto, *Towards a New Architecture*. Matt Tyrnauer examines this reaction and others in “Architecture in the Age of Gehry.” Equally interesting is the lack of consensus on the other “important” works, revealing the rather complex legacy of Modernism. Slideshows of all 21 “modern marvels” are published online, along with Gehry’s other works and the



complete results of who voted for what. Architecture in the age of *American Idol*.

The importance of being glam... Wellesley professor Alice T. Friedman tackles Eero Saarinen, popularity, and the importance of image in “Modern Architecture for the ‘American Century’” (*Places Journal*, posted June 22, 2010). While seeking a unique form for every project, Saarinen explored new technologies and materials, emphasizing “circulation, framing, and sensual experiences.” His clients loved it. The critics were mixed. In this excerpt from her new book, *American Glamour and the Evolution of Modern Architecture*, Friedman offers a thorough re-evaluation of Saarinen’s work and the mid-century criticism it received, and in doing so, discusses the role of American architecture in an era led by corporations. ■

Gretchen Schneider AIA, LEED AP is the principal of Schneider Studio in Boston.

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LANDSCAPE + URBANISM

www.landscapeandurbanism.blogspot.com

A one-stop shop for the urban-landscape thing, this active blog includes it all: "landscape architecture, sustainable urbanism, vegetated architecture, urban agriculture, living walls, green roofs, ecological planning, and landscape urbanism theory."

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CITY FARMER NEWS

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For 32 years, City Farmer has encouraged city dwellers to create their own productive landscape. With posts including stories from Vancouver, Phoenix, Tokyo, and Chandigarh as well as tips like how to use worms in your compost, this extensive site takes the "think globally, act locally" mantra to an entirely new dimension.

WATERFRONT TORONTO

www.waterfronttoronto.ca

The poster child for landscape urbanism, Toronto also shows us how a municipal development website should be done. Waterfront Toronto provides design proposals and construction updates, maps, history, and more — making public process look like fun.

CITY PARKS BLOG

www.cityparksblog.org

Coming from the Trust for Public Land's Center for City Park Excellence and the City Parks Alliance, this blog covers issues from crime and safety to economics, green infrastructure, and health. Staff from both organizations regularly post on the site, creating a rich information database and offering links to other blogs.

URBAN LANDSCAPES

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Urban landscape photography from around the world: settle in for a global tour. ■

The Vespa

It was a typical autumn morning in London. The sky was pewter grey and the air heavy with the expectation of rain. The only sounds I could hear on the narrow residential street were in keeping with its demure Victorian brick terraces: front doors thudding shut; purposeful footsteps of men and women on their way to work; the “slick slick slick” of bicycle wheels moving along the damp tarmac. All was in its rightful place until, from behind me, the buzz of a Vespa scooter toppled my aural order. A Vespa scooter! For one glorious second, I was in Rome with its ochre-colored palazzos, dark cobblestoned streets, and fierce sunshine. Then, as the buzz trailed off into the distance, I remembered that scooter sales had recently exploded in London, a consequence of the exemption of two-wheeled vehicles from the city’s hefty congestion charge. “Mental note to self,” I thought, “erase Italian connotations of scooter noises. The Vespa is now just as much part of London’s soundscape as it is of Rome’s.”

You could call me, I suppose, a “sound hound,” a “collector of audio.” It’s a professional hazard when you work in radio. When I arrive at an interview location, I walk my ears around the place to identify what sounds I might record to give my listeners a sense of being there with me, to transport them out of their cars and kitchens to, for instance, Rome. Vespas, I realized that autumn morning, no longer work in the shorthand way they used to, at least for London listeners.

Hearing is the first sense we acquire as human beings—before even coming out of the womb. Hearing is also, we’re told, the last sense we lose before dying. Sound envelops us every minute of our lives. There are individual sounds—the ring of a bell, for instance—so iconic that only a few seconds suffice for our brains to flash an image of the place that ring was from,

whether a school, church, or door.

Cities are a cacophony of sounds—cars, horns, voices, footsteps. Recording the aural cityscape is a challenge. How can one convey without using words the intimidation caused by the Stalinist buildings of Minsk, the pandemonium of a Manila shantytown or (and this is perhaps most challenging) the modern humdrum of a bureaucratic city like Brussels? My own moment of revelation came at the National Gallery in London. Not because of any painting, but thanks to the variety of its floor surfaces. The soles of my feet still remember the sensation of moving from parquet to marble to carpet. But my ears remember, too. Voices, footsteps, the London buses outside the window—each reverberated differently depending on the floor material. Does a given soundscape, I wonder, affect our artistic appreciation?

Hearing a place is a visceral experience: it is something we can all relate to without thinking why. Recording a person interacting with a space by talking in it and walking through it creates sounds that paint a vivid picture in the mind of a listener.

Consider the following radio sequence of just one minute from a documentary about land reform gone wrong in South Africa. The reporter walks into a ruined farmhouse. She describes what she sees and as she does, her voice bounces off the bare walls and her feet scrape against the rubble inside the house. She walks out of the house, and the echo is replaced by the deadened sound of an abandoned garden where she wades through brittle breaking leaves where there were once flowers and vegetable beds.

We share our streets and squares; we share their sound, too. Or perhaps more accurately, most of us still share their sound. Technology, the iPod being just one example, is already changing our relationship with the soundscape. It is a bittersweet irony that the very medium that proselytizes a community of listeners is experiencing a renaissance thanks to devices that shut people off from the sounds of their own cities. ■

Maria Balinska is the former editor of the BBC’s World Current Affairs Radio and a 2010 Nieman Fellow at Harvard University.

▼ Photo by Morten Rustad.



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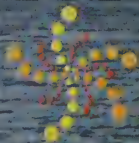
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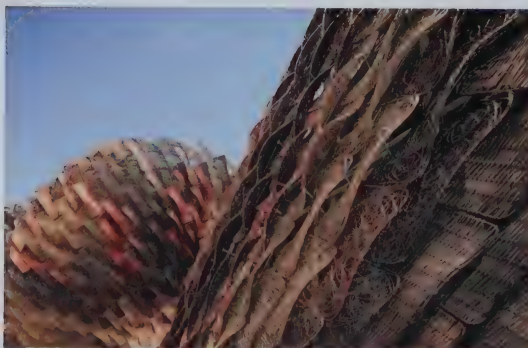
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UnModern

This page: Spain pavilion, Shanghai World Expo 2010.

Architect: Miralles/Tagliabue-EMBT. Handmade wicker panels, representing weaving traditions in both Spain and China, are hung on a structural steel frame. Photo © Edward Denison 2010.

Cover: Untitled, from "Fictions" series, photo illustration by Filip Dujardin (see page 34).

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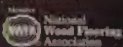
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Question Authority

Like a much-loved jacket that suddenly doesn't seem to fit right, Modernism is in need of tailoring. It's simple: Modernism as we knew it is out of date.

How could it not be? The world has changed in ways that would have been unimaginable even to the futurists who attended the birth of the movement a century ago. And yet we honor codes and by-laws of Modernism that are often as arbitrary and dusty as blue laws. The form-follows-function adage is as constricting as a corset when we celebrate proposals to convert Wal-Marts into public libraries, churches, even bio-fuel generators. "Less is more" sounds ridiculous in the Big-Gulp culture that invented the storage unit, thus allowing us to obsess over photos of spare, minimalist homes in design magazines.

The movement's claim to currency — its embrace of the new — has camouflaged the fact that it has failed to be self-critical. Having vanquished the challenge of Postmodernism, with its cartoonish resurrection of history, Modernism bounced back with the Modern Revival to re-establish its authority. We now give design awards to new buildings that are essentially dutiful replicas of their 20th-century forebears, but with better insulation. We embrace an aesthetic that denies the truth of what and where we are now. It's as though we've all come down with a bad case of cognitive dissonance.

When calendars flipped a decade ago, the media were filled with discussions of what the new millennium would mean. Those conversations are now largely forgotten, but future historians will view this period more broadly because the trends and patterns of this *fin-de-millénaire* era will be apparent. Sustainability and climate change are profound influences. The Slow movement is blending with the locavore trend. Economic unease is causing us to rethink the values and goals that defined the American Dream: home ownership, college education, immigration laws, the inevitability of generational advancement. The expansion of Asian economies, led by the Chinese, has loosened Euro-American cultural hegemony. Cloud platforms

and open-architecture technologies are changing the way we think and work. Baby boomers are aging out, and Gen Xers are moving into positions of authority as they confront middle age. And, of course, there was 9/11.

It's a lot to deal with, and it's probably natural that we would be nostalgic for what now seems like the innocence of oldey-fashion Modernism. (The passage of time numbs our recollection of the real history of the era.) But glimmerings of change hint that Modernism is morphing and evolving into something that transcends its previous incarnation.

With this issue, *ArchitectureBoston* explores some of those glimmerings as well as some of the ways we have outgrown the old Modernism. We have dubbed this transition "Un-Modern," a phrase borrowed from Luis Carranza, who first used it to describe this phenomenon in the context of Nestor García Canclini's classic *Hybrid Cultures: Strategies for Entering and Leaving Modernity* (see our November/December 2008 "Hybrid" issue). It is amazing that one little prefix has such power to intrigue and discomfort, as we've learned in subsequent discussions. Un-Modern is not a rejection of Modernism nor is it an embrace of tradition. It represents choice and the considered rethinking of long-held assumptions. It jettisons some contemporary conventions and reinvents some older ideas, adapting them to contemporary life and needs. We hope that the term Un-Modern will suggest both a process — like unraveling — and a hybrid condition, much as the undead vampires currently inhabiting popular culture are not dead, but not alive, either.

Modernism is morphing and evolving into something that transcends its previous incarnation.

As Carranza noted, "We live in times when it is necessary to enter and exit modernity, to be more hybrid." The old Modernism celebrated speed. Maybe Slow Modernism will be the future. But whatever the form or label, this new century demands its own Modernism. ■

Elizabeth S. Padjen FAIA
Editor

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As evidenced in your Fall 2010 "Turf" issue, truly transformative changes are occurring in landscape architecture, from provocative theories, like landscape urbanism, to significant projects, like the High Line in Lower Manhattan.

For further evidence that we landscape architects are claiming anything that's not a building as ours, see the Sustainable Sites Initiative (www.sustainablesites.org). The Sustainable Sites Initiative (or SITES) is an interdisciplinary effort led by the American Society of Landscape Architects, the Lady Bird Johnson Wildflower Center at The University of Texas at Austin, and the United States Botanic Garden to create voluntary national guidelines and performance benchmarks for sustainable land design, construction, and maintenance practices. Essentially, SITES is LEED for the outdoors. SITES was designed by a diverse, interdisciplinary team working closely with the US Green Building Council and others. SITES is currently in a two-year pilot stage with 164 projects from 34 states as well as Canada, Iceland, and Spain. These landscape projects represent a diverse cross-section of project types, sizes, and geographic locations in various stages of development from design to construction and maintenance. SITES has the potential to make major changes in the practice of landscape architecture.

The future prospects for landscape architecture are indeed bright.

Frederick Steiner FASLA
Dean, School of Architecture
University of Texas at Austin
Austin, Texas

Landscape architecture has long been a profession with an identity crisis. It inhabits a nebulous space at the intersection of art and science, with overlaps in ecological studies, agriculture, urban design, engineering, social sciences, architecture, and planning, to name a few. Part of the problem has been education: a review of academic landscape architecture offerings at American colleges reveals the profession

has found a home in departments as varied as horticulture, architecture, environmental studies, engineering, and fine arts. Nobody seems to know quite where it belongs.

In many ways, this ambiguity is responsible for the profession's recent rise to prominence. Less restrained by well-defined boundaries than many other disciplines, landscape architects have been unafraid to venture across boundaries, incorporating others' expertise as necessary. The "Tectonic Shift" [Fall 2010] roundtable participants touched on this aspect of contemporary practice in discussing the complex and diverse interdisciplinary teams being assembled for many of these projects, with landscape architects at the helm. Such teams are becoming the new norm for this mode of thinking and designing.

In the new urban frontier, we find the opportunity for combining the many facets of the profession toward a common goal. This is a promising and hopeful trend for a profession that has too often been split into camps of "high design," land use planning, and environmental management, among others. This shift is in evidence in academia as well. Today's landscape architecture students increasingly understand their role not as masters of a particular aspect of practice but rather as innovators who are adept at synthesizing disparate information into coherent, compelling, responsible, and adaptive designs.

Scott Carman LEED AP
c2 | studio Landscape Architects
Boston

Your recent "Turf" issue [Fall 2010] raises questions about how a single model of professional practice might adequately translate the social, environmental, political, and economic complexities inherent to landscape urbanism.

A professional model addressing common landscape-urbanism issues is not easily achievable given the timescales of traditional built development. These types of projects must be considered in timescales

of decades, rather than years. Likewise, decentralized service provision and fractured decision-making bodies challenge conventional models of practice. Often they struggle with numerous conflicting stakeholders and the constant shift of resources and priorities. Perhaps this is one reason why landscape urbanism (as a field) has developed only a small identifiable body of built work?

Blurring the distinctions between traditional fields of practice enables alternative design approaches that can lead to very different considerations of large-scale public work and even the development of new project typologies.

In our experience, the practice of landscape urbanism is becoming further entwined with the future of public space. New models of practice can navigate the complicated relationships of partnerships and players who formulate, develop, stall, and/or redirect the course of projects. Often, the greatest hurdle is to develop the flexibility to operate under the challenges of political and administrative changes, public need, and shifting economic priorities.

Gina Ford ASLA
Shannon Lee
Sasaki Associates
Watertown, Massachusetts

The various perspectives offered in your "Turf" issue [Fall 2010] provide some thought-provoking and occasionally entertaining reading, but the overall impression unnecessarily diminishes the continuing relevance of architecture and, particularly, urban design in the shaping of our cities, the public realm, and the broader environment.

Times are tough for many architects, and presumably for many landscape architects. As Tim Love pointed out in his essay "Paper Architecture, Emerging Urbanism" (*Places*, April 13, 2010), when the work slows down, the theorizing increases. In part, this is justifiable, as the design professions look for ways to keep themselves relevant in a changing economic, cultural, and environmental

milieu. On the other hand, this dialogue often results in a battle of labels and definitions that tend to suggest hierarchies and divide our professions. For example, Charles Waldheim, in the roundtable discussion "Tectonic Shift," is credited with coining the term "landscape urbanism," a notion that is reinforced by Jeff Stein in his discussion with Waldheim himself. Yet later in this same discussion, Waldheim notes that "now we are seeing an interest in ecological urbanism, which represents ... a critique of the failings of landscape urbanism."

Although it's hard to disagree with the notion that landscape (or, now, ecological) urbanism has created a larger and more systems-based context for the planning and design of large sites, neighborhoods, and even regions, the focus remains largely on the ground plane.

Meanwhile, practicing architects and urban designers, working with landscape architects in the real-world environment of mission-driven architecture, engaged communities, and local regulatory agencies, are continuing to focus on the three-dimensional environment, as the economics of even responsible development push densities to a point where conflict over the right to light and air—and not just the ground—is becoming our major battleground.

Labels and relationships can shift quickly, and our awareness of how the design professions can affect the global environment has grown significantly, but let's not write off the relevance, or the responsibilities, of architects and urban designers just yet.

Steve Heikin AIA
ICON architecture, inc.
Boston

I was amused to read references

to "burying Olmsted" in the "Tectonic Shift" roundtable [Fall 2010]. Here in Boston, Olmsted's work has already been buried repeatedly: by fill from digging up what are now the Red Line tunnels under Boston Common (dumped on the Back Bay Fens to make the land under the Victory Gardens); by the Bowker Overpass (destroying the Charlesgate entrance to the Fens); by selling land for a Sears parking lot (Fens again!); and by Logan Airport (the 46-acre Wood Island Park, destroyed in 1966). I won't even

begin to describe how far Franklin Park has departed from Olmsted's original vision.

Those aren't the only parks that have been intentionally destroyed. In Massachusetts as a whole, there are frequent "Article 97 land transfers," in which the legislature grants permission for communities to strip public parkland of its protections and transfer it to other uses—including giving the land to private owners. In 2008 alone, there were 44 of these "transfers." In 2009, the most notorious recent Article 97 transfer swapped three wooded, unspoiled acres of the Blue Hills Reservation to the owners of the Lantana function hall to build a parking lot in exchange for an unbuildable two-acre landlocked wetland.

I admire the landscape-urbanist approach to the Rose Kennedy Greenway discussed in "Shift," but I am very nervous about the overwhelming economic agenda of the parks' abutters. Laura Solano states that "it's going to be redone," but will it be redone with any consultation with landscape architects? Or will developers call the shots and gradually transform the Greenway into just another overshadowed, built-out street? How can we ensure the integration of landscape and urban infrastructure when builders are ready to pounce on any open land—just as they did on the Blue Hills Reservation?

Money talks, and money may not be terribly interested in "a larger vision of connectivity and continuity," as David Gamble put it. Unless we can defend the inherent human and economic value of parkland in the urban landscape, it's not just Olmsted that we'll be burying; it will be the entire Greenway.

And heck, Olmsted did have some good ideas. No one calls the Riverway "a giant median strip."

Meg Muckenhoupt
Author, *Boston's Gardens & Green Spaces*
Lexington, Massachusetts

We want to hear from you. Letters may be e-mailed to epadjen@architects.org or sent to *ArchitectureBoston*, 52 Broad Street, Boston, MA 02109. Letters may be edited for clarity and length, and must include your name, address, and daytime telephone number. Length should not exceed 300 words.

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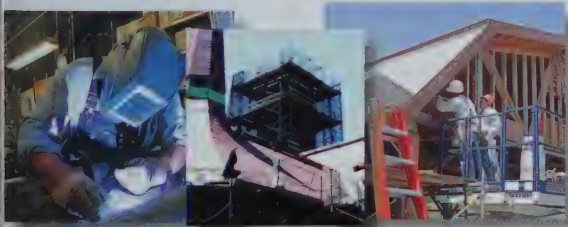
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Z-20 Concentrated Solar-Power System. Ezri Tarazi and Ori Levin, Tarazi Studio. Manufacturer and client: ZenithSolar, Israel. 2009. Photo courtesy ZenithSolar.

National Design Triennial: Why Design Now?

Cooper-Hewitt National Design Museum, New York City
May 14, 2010–January 9, 2011

The fourth installment of the Cooper-Hewitt's Design Triennial highlights designs that respond to the social and environmental crises of our time. From hand-operated millet threshers made of bicycle parts to solar-powered LED displays to carbon-neutral cities, the exhibition features an impressive array of solutions to contemporary issues.

The challenge of the triennial format is that it necessarily casts a wide net; organization of the resultant “catch” is nearly impossible. Here, the curators opted for eight thematic sections—Energy, Mobility, Community, Materials, Prosperity, Health, Communication, and Simplicity—that are so vague as to become almost meaningless. Although the themes are broad, the conceptual framework for the triennial as a whole is surprisingly limited. The curators are so intent on proving design’s relevance that they lose sight of its consummate role, that of giving form to the world around us. Many of the artifacts on display are fascinating in their ingenuity but are far less spectacular as design objects.

Happily, a handful of projects and

products stand out within the jumble. Large-scale models and prototypes offer some of the most satisfying moments. In the Energy section, tiny mirrors across the concave surface of the Z-20 Concentrated Solar-Power System, designed to capture five times the solar energy of a conventional solar cell, transform the space of the gallery. The M10 Kite-Power System's sleek carbon-fiber wing, intended to harness wind power, hangs overhead. Together, the two prototypes offer a powerful testament to such products' potential to reshape our built environment. Under the Community theme is the ambitious plan of Medellín, Colombia, to inject public buildings and landscapes into its most dangerous neighborhoods, spawning a rebirth of those communities. The city—more than any product—stands as convincing evidence of the transformative power of design.

Online: <http://exhibitions.cooperhewitt.org/Why-Design-Now>

Elizabeth Stoel is a writer and designer in New York City.

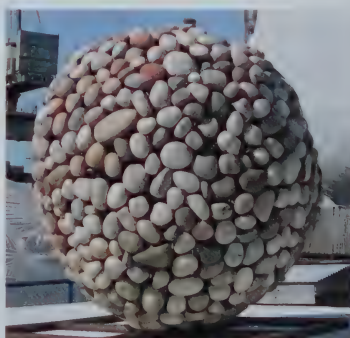
International HarborArts Outdoor Exhibition

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It's a compelling proposition: Use large outdoor art at the spot where land and water meet to bring attention to ocean issues. HarborArts first made a splash with the 40-foot-tall sculpture of a young boy and a shark in the harbor. "You, The giant fish now swim with it," it read. HarborArts's Boston branch opened in 2009, with works by more than 100 other artists from around the world.

Apogee by Karl Saliter, 2007.
Photo by Christina Lanzl, UrbanArts.



The Boston Modern Module: National Trust for Historic Preservation

First Church of Boston

June 29–30, 2010

Recent news has not been good for Modern architectural landmarks in Boston. The kindest headline the *Globe* could muster for a recent article on Modern architecture was “In Praise of Ugly Buildings.” Beyond the media, public discourse on Boston’s Moderns remains focused on bad memories of urban renewal and general distaste for concrete.

In June, the National Trust for Historic Preservation hosted a “Modern Module” in hopes of providing a stage for productive debate. Titled “The Spirit of Reinvention,” the module included an invitational roundtable and a public forum accompanied by a booklet with photographs by Bruce Martin and text by David Eisen AIA. Almost 40 people attended the roundtable discussion, while

nearly 300 turned out for the forum — higher numbers than previous Modern Modules in the Twin Cities and L.A. However, attendees were primarily design and preservation professionals.

Indeed, the amount of Boston’s professional research on and support for Modern architecture stands out among American cities. While citing the ever-present need for funding, roundtable speakers acknowledged the relatively extensive resources that the Boston area has put into documenting mid-century architecture and supporting building owners.

Nonetheless, a schism remains between professional and public opinion, and both the invitational roundtable and public forum ended with suggestions (if not specific direction) on how to improve public education. Moderator Anthony Flint focused on this issue during the forum discussion featuring Charles Birnbaum of the Cultural Landscape Foundation, David Fixler FAIA of DOCOMOMO New England, Susan Macdonald of the Getty Conservation

Institute, and Kathy Spiegelman of Harvard University’s Allston Development Group. In conclusion, Spiegelman asked the most difficult question: How do we reach those who just “don’t get it”? As she has observed, not even young students could be counted on to advocate for mid-century or contemporary buildings that depart from nostalgic images of the city.

Participants made numerous proposals: high school and university classes on Modernism; storytelling; training for realtors. Most are long-term commitments. Yet the Modern Module also made clear that a dedication to mid-century buildings is increasingly critical as these buildings change owners or begin to require significant maintenance and functional upgrades. As recent proposals for the Christian Science Center demonstrate, even well-loved and well-used Modern masterpieces are vulnerable.

Justin Crane AIA is an architect with Cambridge Seven Associates and co-chair of Common Boston.

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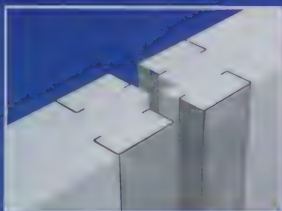
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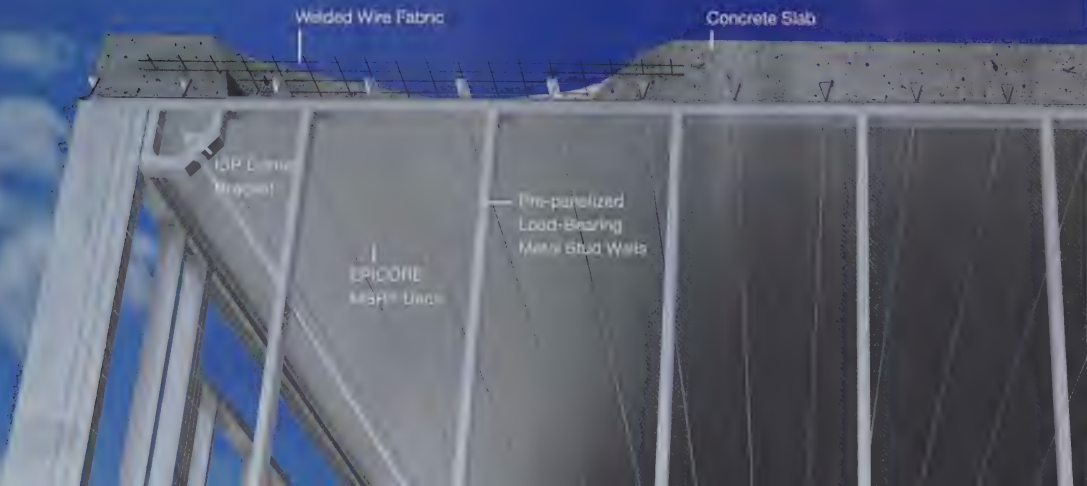
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Dreaming an Orchard

The project: A permaculture orchard, or forest garden, is being built within the Lampson Brook Agricultural Reserve in Belchertown, Massachusetts. It is a publicly owned farmstead managed by the New England Small Farm Institute.

The designer and farmer: Susanne Hale, an urban ecologist and permaculture designer at UMass Amherst.

The land: Susanne's parcel is in two parts: a half-acre plot along the road and, across the way, an upland plot with a wide variety of fruit- and nut-bearing trees. The land is being managed using permaculture agricultural practices — the point of permaculture is to create a self-regulating ecosystem. The crops will be grown using organic practices (community-supported agriculture or CSA).

9:40 Susanne drives from her house to the orchard site. Once the engine temperature reaches 180°, her car switches to run on filtered vegetable oil, recycled from local restaurants.

10:02 Clipboard in hand, Susanne begins a survey of the field's perimeter. She is interested in learning what this piece of land naturally wants to do and is searching for pioneers — brave plants that have jumped in and established themselves — and successful marriages — plants that seem to love each other and enjoy living side by side. What does the mix of plants suggest about the character of the soil?

10:07 Pokeweed. Bramble. Jewelweed. Grapes. Something Susanne doesn't recognize; she pulls *Peterson's Field Guide to Wildflowers* out of her backpack and identifies it as bouncing Bet. Goldenrod, cow parsnip, wild rose. Wood sorrel. The mix of plants confirms the acidity of the soil.

10:18 Still cataloguing the first 15 feet or so of land, Susanne notes a number of nitrogen

fixers — plants with microbes on their roots that naturally fix nitrogen into the soil, a process that otherwise takes an intense burst of artificial energy, such as a lightning strike. Susanne will take cuttings and spread these valuable plants through the orchard. She will also coppice them — prune them back — to encourage them to release their nitrogen into the soil and will use the prunings as a nitrogen-intensive mulch.

10:24 Dandelions — the nuisance plant of the suburban lawn — are welcome assets here. Susanne categorizes them as “dynamic accumulators”: plants that typically have a deep taproot that accumulates minerals that other plants draw on.

10:27 Poison ivy. Lots of it.

10:29 A wild cherry tree, just outside the perimeter of Susanne's land. A terrific asset: it will be a good pollinizer for her fruit trees, and its fruit will help to divert birds away from her crop.

10:33 Common alders — trees that are great



▲ Photo by Joan Wickersham.

nitrogen fixers. Susanne will plant more of these along the perimeter of the land.

10:34 At the bottom of the slope, a wild raspberry bush. Susanne wants to plant a berry patch down here, so this is confirmation that the site will be hospitable.

11:05 Susanne crosses the road to survey the remnants of an orchard of Chinese chestnut trees. They were planted here as part of the last big community orchard movement — sparked by the energy crisis of the late 1970s — and have been neglected since the '80s. Chinese chestnuts are blight-resistant, but their introduction, around 1900, brought the blight that killed off most American chestnuts.

11:08 Slowly climbing the shady hillside, Susanne looks carefully at each of the 11 remaining Chinese chestnut trees, making notes on their condition and trying to get a sense of which ones are struggling least. Which have burrs? Which get the most light? One tree's low branches are bare, but it has thick leaves and burrs up above, which indicate that it is still bearing nuts. Susanne notes sympathetically that it is working very hard; despite its scraggly appearance, there is something healthy there.

11:14 Overall, this old orchard is a cautionary tale about the hazards of planting too closely. There's a gap in the line of trees — probably a space where a tree didn't make it — and then, just beyond it, a tree burgeoning with thick glossy leaves and crowded with burrs, clearly having benefited because it hasn't had to compete for light and nutrients.

11:18 Not surprisingly, the trees that are deepest in the woods are stunted and too far gone to be saved. Yet, as she looks down at the lines of trees, Susanne is pleased at the general level of health she has observed. She is beginning to figure out which trees to take out and which to keep. She will put in nitrogen fixers and intensive sheet mulch to nourish what's here; and she will clear land and plant other trees, including a new species of blight-resistant American chestnut trees.

11:26 Continuing to climb the hill, Susanne looks at a section of open land where she will build a pond. There is an old farm building — a root cellar — in the woods nearby. Susanne plans to install roof gutters

to collect rainwater, which she will pipe to the pond. She will also build a hoop house for propagation and to extend the growing season; rainwater from its roof will also feed the pond, which in turn will be piped out to irrigate the orchard.

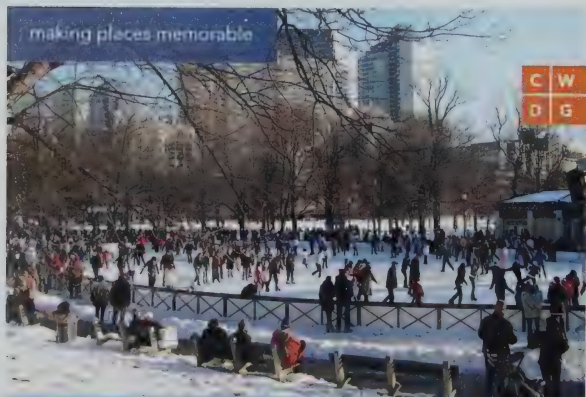
12:07 Susanne drives home for lunch, thinking about a trip she's planning to an old-growth forest in Monroe, Massachusetts. There, a southwest-facing section will help her imagine what her own piece of land used to be like before all the trees were cut down for farming. The forest will tell her a lot about long-term happy marriages — plant pairings that have grown up naturally and thrived over several centuries together.

1:27 Susanne clears a pile of books (*Edible Forest Gardens; Managing Alternative Pollinators; Rainwater Harvesting for Drylands*, vol. 1) off her kitchen table and unrolls GIS photos and plans of the land, overlaid with a sheet of tracing paper on which she has sketched a plan of how the orchard might look at maturity, 25 years from now.

1:30 She tapes a clean sheet of paper over the plan and begins tracing dots to mark the tree trunks. Working backward from the earlier sketch, which showed the full tree canopy and helped her calculate how much room to leave between trees, she's now starting to imagine what she will use to fill the spaces and nurture the trees as they grow. Many of these initial plants will phase themselves out as the trees mature and create more shade.

1:41 At the far end of the sunny open field, she dots in mulberries, persimmons, pawpaws, all low-maintenance native plants. She dots in the fussier trees — apples, pears, plums, peaches, apricots — closer to the entrance, where it will be easier to give them more attention.

1:50 Pecans, walnuts, American chestnuts, buartnuts (a cross between butternut and heartnut). A problem: she has placed some of the nut trees within a strip that is a state-mandated open-view line. She erases and starts to think about moving these taller trees elsewhere, juggling them with shorter plants that won't obstruct the view from the



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It's like devising a seating plan for an intricate dinner party, considering not only conversational pairings but also who will want to play footsie under the table.

road across the open fields. But she also needs to consider irrigation, clustering plants whose water needs are similar.

2:04 She traces over a large boulder. She plans to go out with a metal bar to probe the underground depth and width of the rock—are we talking iceberg? If so, she won't be able to plant near it, but it might make an ideal turtle nesting site.

2:14 In an empty corner of the sheet, she sketches a cross-section of slope. She's working out how to make room—horizontally and vertically—for an efficient mix of canopy trees, pollinizers, nitrogen fixers, and dynamic accumulators. A lot of the ecosystem is under the soil, invisible: the relationships between microbes, roots, and fungi. Some plants will do double and triple duty: berries, for instance, are crop plants and pollinizers. How to arrange the plants

so they take care of one another and don't compete for sun and nutrients? It's like devising a seating plan for an intricate dinner party, considering not only conversational pairings but also who will want to play footsie under the table.

2:30 Considering *elaegnus x ebbingei*, a nitrogen fixer that produces berries in April. The problem: the berries may not be popular in the CSA. People don't eat them raw, though they're nutritious and can be mixed with apple juice. They're very hot now in Europe. Is it wiser to anticipate something that might catch on later in the US, or to keep things simple and appealing? Is the plant's value as a nitrogen fixer enough to offset the possibility that it might not earn its way as a crop producer?

2:49 Susanne has drawn a row of tall Italian alders, excellent nitrogen fixers, next to the

road, but she's forgotten the mandated open-view strip. She draws a line through the alders, crossing them out. She's at the boggle stage, temporarily stymied by the complexity of juggling all the different variables. But she has several more months to work out the design. She will also prepare and mulch the land. Her seedlings will be grown from nuts and cuttings, incorporating mycorrhizal symbiosis, or beneficial associations between plant roots and underground fungi. She'll begin planting a year from now.

Meanwhile, she will continue to think about how to make the best use of the land. She will consider space, time, climate, water, soil, plants, animals, microbes, minerals, ecology, economics, history, food, and beauty. In other words, pretty much everything. ■

For more information on Susanne's project and the New England Small Farm Institute: www.nutsandberriescsa.com and www.smallfarm.org.



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Evidence

Are we on the cusp of a new kind of Modernism? The most important clues are not necessarily the most obvious.

Small changes in our daily lives hint that something big is afoot. Eschewing the paper-or-plastic conundrum of the '90s, shoppers proffer their own tote bags, made of recycled materials. Families juggle Saturday schedules to accommodate trips to the local farmers market. The big automobile — the very embodiment of Modern virtues of speed, mass-production, and mobility (not to mention family wholesomeness) — has become an object of revulsion akin to the cigarette.

Much of this can be attributed to concerns about sustainability and the environment. But that is not the whole story. Many of the assumptions that fueled Modernism and drove the convergence of design and society in the last century have lost their certainty. It's hard to stand on your convictions when their foundation is cracking.

Of course, incremental changes in everyday life might reflect nothing more than the vagaries of consumer fads and fashion. For real evidence that 20th-century Modernism is giving way to something different, you need to look deep. Fundamental shifts in attitudes and assumptions suggest that we will see even more challenges to old-style Modernism. We are rewriting the social contracts that govern our private lives, our public institutions, and our global relations. But one lesson of Modernism still seems to hold: design is the manifestation of society.

— Elizabeth S. Padjen FAIA



Photo by Keith Durlinger/
San Gabriel Valley Tribune.

Processing Urban Renewal

by Anthony Flint

The *Wall Street Journal* headline was unsettling for any fan of the revered author of *The Death and Life of Great American Cities*:

"Enough with Jane Jacobs Already!" Could it be that the woman who took on master builder Robert Moses had, like Lady Gaga, become overexposed?

In fact, the writer was bemoaning the fact that the pendulum had swung too far. Jacobs led a rebellion against some truly bad ideas — to run a roadway through Washington Square Park, to bulldoze Greenwich Village to make way for drab housing towers, and to blast through what we now know as SoHo with the Lower Manhattan Expressway.

These projects were all part and parcel of the era of urban renewal, and although Moses was decidedly non-ideological — Le Corbusier's Radiant City and "towers in the park" simply fit the bill for more density and housing units — the reaction against them was a blowback against Modernism. The main conceit of swaggering figures like Moses was that there was no public participation; planners knew what was best.

So when Jacobs began holding court in the Lion's Head and holding strategy meetings at 555 Hudson Street — and, critically, enlisting up-and-coming political figures like Ed Koch and Carol Greitzer — the power of the people was established. From that point on, in New York and cities across the nation, the community would have a say. The neighborhood would be involved every step of the way.

The adversarial relationship was built-in. Jacobs argued that big plans were folly in every case, and big plans, on the urban-design scale of Le Corbusier, were the essence of Modernism. It is no stretch to say that Modernism gave birth to process. And that process led to major compromise, when it wasn't grinding things to a complete halt.

The problem is that process — "the orgy of public process," in the words of New Urbanism founder Andrés Duany — is indeed making it very difficult to do much of anything in cities today. This is particularly true at infill redevelopment sites — places like Boston's JFK/UMass T station, which cries out for transit-oriented development, but is warily watched over by the adjacent neighborhoods of Savin Hill and St. Mary's in Dorchester. Neighbors worry about traffic congestion

and parking and disrupted views. Mostly they worry about any change whatsoever in the urban landscape.

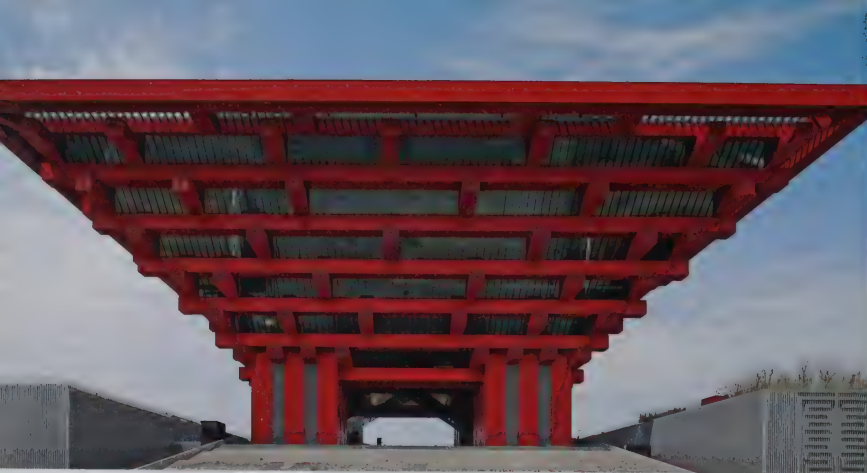
Jacobs showed courage and gumption to stand up for the block where she witnessed the "sidewalk ballet." Today that kind of rebelliousness has lapsed into mere NIMBYism — Not in My Backyard. Somewhat predictably, this has led to a reconsideration of Moses and his intentions, which might not have been so bad in every aspect after all. Clearly, infill redevelopment is an important part of reinventing the 21st-century city. The infrastructure to support the contemporary city is worthy of investment and shouldn't be derailed by discontents. Nor should wind farms and solar panels be opposed in knee-jerk fashion.

Evidence of a new skepticism of the Modern legacy is all around us: local, organic farms versus big agriculture; home births and hospice instead of being born and dying in the medical machinery of hospitals. So it is with community participation to guard against big plans. But if Modernism gave birth to paralyzing public process, this story isn't over yet.

There is a certain house-of-mirrors quality to where we find ourselves. The National Trust for Historic Preservation recently launched a campaign to celebrate Modern architecture in four cities, including Boston [see page 10]. The products of urban renewal, like Government Center, are now being deemed worthy of protection — the very projects that inspired the formal historic preservation movement in the first place. The Modernist visions that led to the destruction of Pennsylvania Station, which in turn prompted landmarks commissions in New York and other major cities, may themselves go through the process — yes, the process — to secure their place in architectural history.

Were she around, Jacobs, who appreciated the works of Louis Kahn and Mies van der Rohe, might even approve.

Anthony Flint, author of *Wrestling with Moses: How Jane Jacobs Took On New York's Master Builder and Transformed the American City*, is a fellow and director of public affairs at the Lincoln Institute of Land Policy in Cambridge, Massachusetts. His blog, "This Land," appears at Boston.com.



China pavilion, Shanghai World Expo 2010. Architect: He Jingtang. Photo © Edward Denison 2010.

Its Own Thing: China's Struggle With Modernism

by George Thrush FAIA

What's going on in China? We know that they are building like there is no tomorrow and that the whole world lives in fear that the collapse of the Chinese housing bubble would make our own recent mortgage-based shenanigans look like a walk in the park. But what about *what* they're building, and why it looks the way it does? Elsewhere in the world, designers, communities, and entire societies are somehow trying to find a way to customize Modernism to their own ends, to make it less universal and more responsive to local concerns. If this phenomenon speaks to a kind of "Un-Modernism," is China evolving a position that is, in some way, Un-Modern?

In a word, no.

China remains in a polarized relationship with Modernism, at least when it comes to architecture. In Beijing, the juxtaposition between old and new resembles that found in many older cities around the world. Centuries-old cultural and governmental buildings sit adjacent to newer and more modern structures. This reflects the normal layering of older cities.

But there is also a much odder phenomenon. The Chinese seem quite torn between the purity of traditional architectural language and the scale and uses of the contemporary world. So one finds things like a 15-story hotel built as though it were a single-story ornate traditional house, with the decorative layered wooden details continuing upward without pause. There are austere office buildings that look like 1950s Modernism until one gets to the roof, where they revert to large-scale versions of Chinese temples. And finally, there are the many new buildings that have no apparent relation to traditional language whatsoever.

This schizophrenic approach to language, of course, is not unique to China, only perhaps more pointed. In the early days of skyscrapers in the United States, there was also great confusion about composition and language. It took many tries before architects began to understand how to graft the evolved language of classical architecture onto this much larger scale. As suggested by anthropologist Nestor García Canclini and later by architect

Luis Carranza, Latin America seems to have more successfully negotiated its early encounters with Modernism, choosing how to be both Modern and Latin, a precursor of today's Un-Modern impulse. Of course, other places, like much of Scandinavia and post-Franco Spain, have also reconciled Modernism with national traditions, but this took time.

Perhaps because of the frenzied pace of building over the past 20 years, integration of old and new has yet to occur in China in a way that is both Modern *and* Chinese. It is at Shanghai's World Expo site that this distinction is most keenly felt — a distinction best understood when comparing the China and Spain pavilions.

Both pavilions have memorable forms. The Spain pavilion [see page 1] looks like a swirling cluster of rugs or mats, describing an elusive and ever changing interior space. It is built of dramatic structural steel tubes from which panels of fabric hang and drape. But the integration and synthesis of this old-world, handmade, low-tech material with the digitally designed, high-tech structural steel frame makes for an interesting take on the idea of "Un-Modern." It speaks of an evolution from the purity and singularity of one international language into a method for cultural integration.

The China pavilion, on the other hand, while succeeding in its assigned role as a marketing device for the Expo (working as a logo *and* a building), remains completely bifurcated. It is a large caricature of traditional Chinese architectural form: the stepped red roof form remains unaltered. The China pavilion continues the separation of history and modernity.

Examining China's unease with the modern helps us understand our own relationship with history and modernity. Once inside the China pavilion, visitors are treated to what promises to be a sweeping history of this vast land. The IMAX video traces a story that begins in ... 1980.

George Thrush FAIA is director of the School of Architecture at Northeastern University.

The Intelligence of the Hand

by Miguel Gómez-Ibáñez AIA

In the mid-1990s, I stumbled upon an exhibition of exquisite North Bennet Street School student craftsmanship. A year later, I was enrolled in the school's two-year, full-time furniture-making program. On the first day of school, I remember feeling profoundly happy and proud of myself for having made the decision to leave an established career to enter a little-known world that involved working with my hands.

North Bennet Street School was founded in 1885 on the premise that hand-skills training was not only a path to employment but also of value to an individual's intellectual development and well-being. Hand skills and mental capacity were believed to form concurrently and be mutually reinforcing. I didn't know any of that when I left my architectural practice to enroll in the school. I had imagined gaining the skill to make lasting objects that I would be proud of and giving some of those objects to my kids to remember me by.

What I had not imagined was the transformation that would take place in me or the brilliance of the world I was about to enter.

In time, the train ride to school felt like a commute to a monastic community whose principles were, in many ways, the opposite of modern society. I spent each day focused on the present moment — not the past or the future — and found that time passed without notice. The longer I worked at a task, the longer I felt I could work. I experienced a growing sense of confidence in myself, not an aggressive self-regard — because the more I learned, the more I saw how much I could learn — but a growing understanding of the connection between my mind and my hands. I left school each day with a sense of accomplishment.

I found that the skills I was learning were unlike those I had used as an architect or so-called knowledge worker. The lessons felt deeper and more personal, gained by experience rather than thought. This type of knowledge is often called the intelligence of the hand. We all experience it when we tie our shoes without looking. Imagine

enjoying that type of experience all day, trusting your hands, not your mind; watching the emerging form and not the tool as you work with a sharp gouge and a spinning piece of wood, or looking at the line ahead when you cut wood instead of the blade, knowing that the work will follow your gaze.

There is a simple morality in working with your hands. When you are a maker there is right and wrong. The joint either fits or it doesn't. No one is fooled. Mistakes happen quickly, and with real consequences. You learn to pay close attention to what you are doing. And the mistakes you make are yours alone; there is no spreading the blame. Craftwork teaches personal responsibility.

In *The Atlantic Monthly* in 1899, Harvard professor William James wrote that manual-training programs "give us citizens with an entirely different moral fibre." He argued that hand skills "give honesty, for when you express yourself by making things, and not by using words, it becomes impossible to dissimulate your vagueness or ignorance by ambiguity."

William James' time gave way to the modern era, and seemingly irrelevant manual-arts programs were gradually stripped from our public schools, impoverishing generations of students. Far from being engaged with our material world, we are now surrounded by "user friendly" objects that, like fast food, only breed impatience. Modernism favors replacement over repair and values the image of physical fitness but has little regard for physical labor.

But there are many signs that the tide has turned once again, including the best-seller status of the book *Shop Class as Soul Craft* by management-consultant-turned-motorcycle-mechanic Matthew Crawford. "Work forms us," writes Crawford, echoing the words of William James. "The lessons you learn working with your hands are the foundation not only for good work, but for a good life."

Miguel Gómez-Ibáñez AIA is president of North Bennet Street School in Boston.

Photo courtesy North Bennet Street School.





High Court, Chandigarh, India (1952). Architect: Le Corbusier. The High Court's parasol roof and terrace, designed as a symbol of justice, with some of the building's original Modern furniture. Photo by Adrián Mallol, 2008.

Aftereffect: The Rise and Fall of the Modern Empire

By J. Frano Violich FAIA

For some, Modernism has been the contemporary architect's ballast, serving to provide mental and moral stability while on a course of artistic, cultural, and political experimentation. For others, it represents an empire whose imperialistic tendencies were obscured by its skill in misrepresenting a universal and idealized world. The movement's postwar rise to prominence coincided with unprecedented industrial growth, access to materials, and efficiencies in construction that situated design as a central contributor, in both economic and aesthetic terms, to an emerging worldview. The capacity to encapsulate a singular visual frame of reference at multiple scales including graphic, furniture, industrial, and architectural design signaled both its power and its eventual vulnerability. At the scale of the city, the design of new centralized seats of power such as Chandigarh and Brasília, with their inclusive engagement of multiple design disciplines, became an enabling force for nation-building while simultaneously establishing Modernism's heroic image of itself.

Modernism's seemingly unshakeable presence has been clouded by its inability to bring real material change to everyday lives. In many instances, it remains more as a reminder of its optimistic promise and ultimate failings than as an agent of productive change in an increasingly shifting and anxious climate. Today, however, a new Modernism has emerged — the Unmodern or, perhaps better, the *Submodern* — that has both confronted and engaged with the Modernism of the 20th century. It is fluid, agile, and sustainable. Instead of centralizing energy, it distributes it. Instead of relying upon institutional systems, it seeks nimble entrepreneurs. Instead of finding solutions, it seeks questions. It is a market-driven global condition that puts the political system of nation-states into precarious balance. This year, the World Health Organization announced that more than half of the world's population lives in cities, putting nation-states under enormous pressure to rescale. Some cities are already responding to shifting conditions: Hamburg, Buenos Aires, Rotterdam, Helsinki,

Melbourne, Singapore, and Shanghai, now referred to as creative cities, support clusters of industries that innovate not despite but because of global environmental concerns and economic instability. The modern Chandigarh is today the *submodern* Shanghai.

With mobile phone sales reaching 325.6 million units for the second quarter of 2010, equivalent to 2.71 million per day, the very foundations of Modernism are being reinvented. The image of a centralized government housed within a singular physical architectural expression is being replaced by a distributed communication network capable of establishing links to economic opportunity, public health, and transportation. The borders that define geopolitical boundaries are being challenged by new lines drawn to reflect innovation and creativity in a multi-disciplinary global market. Even finance is not immune: the world's first person-to-person micro-lending website empowers people to lend directly to unique, small entrepreneurs in many parts of the world. The impulse to build anew from a clean slate is being replaced by reuse and repurposing of given conditions — material, programmatic, and financial.

Whether Modernism continues as a touchstone to a better world or fades with the belief that it was an empire that fell with the implosion of Pruitt-Igde in 1972, it is an inheritance that requires both reverence and dismay. We live within an increasingly declining infrastructure incapable of meeting the demands of growth and energy conservation; much of this represents at best a moment where creativity, invention, and collaboration coexisted and at worst a formula that failed. Through expanded design strategies that open the discourse among clean energy, reuse, new materials, and emerging technologies, we can instead come to see the detritus of Modernism, from its cities and freeways to its furniture and products, as the host for *submodern* projects that reflect and respond to our contemporary condition.

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Second Modernity: Making Good on Architecture's Social Contract

by Robert Cowherd PhD

The last decade has seen a surge of work reasserting what we have always known to be true: architecture needs to do more than just *look* good, it needs to *do* good. The utopian visions of Europe's early Modern movements were driven not just by new technologies but also by the intolerable living conditions of the industrial city. In response, the first International Congress of Modern Architecture (CIAM) meetings were organized to create homes with the newest amenities at rents equal to one week's minimum wage. Modernism's cult of function was rooted in this social imperative to do the most good, with the least resources, for the most people.

Whether one blames the dramatic failures of American public housing or the success of Modern form as corporate identity, somehow we arrived in the last decades of the 20th century deeply skeptical of attempts to solve social problems with architecture. Some suggest that Postmodern theory turned a healthy critical distance from capitalism into an excuse for social disengagement. Architecture schools seem to have perpetuated an implicit choice between two antithetical role models: architect as artist or architect as problem-solver. The social missions at the core of the Aga Khan Award for Architecture (since 1978) and Samuel Mockbee's Rural Studio at Auburn University (since 1992) are two notable exceptions that prove the rule.

Recent evidence suggests that this either/or proposition is yielding to expectations that architects address larger social issues *and* do so through powerful formal propositions. Witness the recent flurry of books documenting high-quality design work of non-governmental organizations targeting some of the most devastated corners of the world: Architecture for Humanity's 2006 *Design Like You Give a Damn*, Bruce Mau's 2006 *Massive Change*, and Project H's 2009 *Design Revolution*. Other efforts include Public Architecture's "The 1%" pro bono campaign (since 2005); International Design Clinic's Guerilla Design projects (since 2006); and countless engagements in informal settlements globally, like Urban Think Tank's work in Caracas, Venezuela (since 2001).

The Internet has proven to be the game-changing tool,

exemplified by Architecture for Humanity's Open Architecture Network that matches design talent with communities in need. The Internet has helped join formerly isolated efforts under the tentative identifier "humanitarian design." Amid charges of "design imperialism," this online community turned introspective last summer and reaffirmed its commitment to working on the ground in long-term relationships with empowered local partners. Given the unintended consequences of the International Style, we now know better than ever that, like politics, all design is local.


Beyond volunteer and not-for-profit efforts, design approaches at work in the public sector demonstrate how to address multiple problems in one move. Mayors in Latin American cities from Curitiba in Brazil to Bogotá and Medellín in Colombia have leveraged bold building and infrastructure projects to mobilize ambitious social transformations quickly enough to win the next election. The usefulness of a public problem-solving design ethos is anything but new in The Netherlands. Since a ninth-century flood killed thousands, a Dutch "polder mentality" has guided a collective reconfiguration of Holland's flood-prone landscape as a matter of survival. Given recent serial disasters — Sumatra, New Orleans, Haiti — and a near-continuous mobilization of architectural first responders, it seems that we are all Dutch now.

Sociologists Ulrich Beck, Anthony Giddens, and Scott Lash identify these responses to the new "risk society" as unabashedly Modern, but in a new way and with a new urgency. They suggest that we critically reevaluate, refresh, renew, even "modernize" Modernism in a process of "reflexive" or "second" modernization. Moving forward in the spirit of the first Moderns but armed with new tools, we just might experience something more complex, more reflective (or reflexive), less utopian, or at least more pragmatic than what we associate with the label "Modern." Modern or not, design is moving back toward doing the most with the least for the many. ■

Robert Cowherd PhD is associate professor of architecture at Wentworth Institute of Technology and worked with Forum Bangun Aceh on post-tsunami reconstruction in Sumatra.

Yodakandya Community Centre, Sri Lanka. Architect: Architecture for Humanity/Susi Jane Platt. Nominee, Aga Khan Award for Architecture 2010 Cycle (winners to be announced November, 2010). Photo © Aga Khan Award for Architecture/ Eresh Weerasuriya.



A photograph of a modern building's exterior. The building features a light-colored concrete wall with a horizontal blue stripe. Above the wall is a roof structure made of parallel wooden slats. A dark, rectangular door is visible on the left side of the wall. The sky is a clear, bright blue.

WE HAVE NEVER BEEN *TRULY* MODERN

With greater
technical
complexity in
buildings comes
the contradiction:
simpler is
often better.

by Matthew Bronski, ASSOC. AIA
and Kiel Moe AIA

French anthropologist Bruno Latour's book *We Have Never Been Modern* was not about architecture, but his questioning of what constitutes modernity provokes a compelling reassessment of 20th-century building technology. If modernity in architecture is in part characterized by a stripping away of the inessential and the use of technology to achieve a minimal architecture of distilled and rational elegance, then 20th-century architecture realized only the aesthetic potential of modernity but neither its technical nor construction potential. In the course of the 20th century, building envelope and environmental-control systems became increasingly and often unnecessarily complex, often to the detriment of their reliability and durability, and that trend continues to escalate in the 21st century.

Consequently, most architecture today seems out of sync with astute trends to reclaim and reinvent lower-technology simplicity. Take, for instance, the growing number of commuters who have switched from automobiles to bicycles. Many serious bicycle commuters have even bypassed higher-tech 10-, 20-, and 30-speed bikes in favor of the reliability, durability, and ease of maintenance of simple, reliable single-speed bikes similar to those that many of us first learned to ride as a child. At the market and the table, many people avoid the higher-technology, higher-yield approach of genetically modified or pesticide-treated "conventional" foods (shipped from all over the world) in favor of locally grown organic produce. In these non-architectural examples, a lower-technology approach widely thought to be outdated and obsolete in the late-20th century was reevaluated by a new generation with different values and criteria (ecology, reliability, durability, sustainability), who realized the drawbacks of a pervasive high-technology approach and the inherent advantages of the lower-technology approach that they reclaimed.

In architecture, we have largely failed to be part of this burgeoning trend toward simplicity, reliability, and durability. As design professionals, we have yet to substantially reassess our ideas of modernity in construction technology, instead favoring a range of higher-technology systems of often unwarranted complexity. Today's complex, multi-layered building wall sections and increasingly convoluted environmental-control systems are technically analogous to the aesthetics of the Rococo or Victorian periods in architecture: spectacles of much applied, and often unnecessary, complexity. The old adage that "the more working parts, the more likely something will fail" is as true for buildings as for bicycles. Further, the escalation in complexity of building envelopes and energy systems has made building performance highly dependent on finicky, fussy details to integrate these various highly specialized working components and layers (air barriers, water barriers, vapor barriers, thermal barriers), and has consequently engendered an attendant escalation in the occurrence of building-envelope failures and lawsuits. The escalating complexity of design and construction requires a correspondingly

large, specialized team of consultants even on many modest projects, further diminishing the likelihood of achieving a simple, rational, well-coordinated design. When the essential, detailed knowledge of design and construction becomes more esoteric and compartmentalized among more specialists, the probability of achieving an integrated design becomes more improbable. Our current approaches are reminiscent of the organization of the Manhattan Project, in which the basic approach to ensuring secrecy was high compartmentalization of the many specialized experts into discrete components and aspects of the project, thus ensuring a general lack of understanding of the whole project among all but a hand-chosen few.

The more working parts, the more likely something will fail.



One logical approach to dealing with the excess of complexity in architectural design and construction would be to simplify, simplify, simplify. Instead, we have addressed the excess of high-tech complexity by adding more high-tech complexity, such as Building Information Modeling (BIM) software, merely to manage the ever-increasing complexity. This software, though, addresses only the symptomatic issues of contemporary practices, not the core problem: many buildings are unnecessarily complex. BIM is strong evidence that now even the design process itself is too complex and requires amelioration.

By fighting higher-technology complexity with more higher-technology complexity, are we fighting fire with fire or are we pouring on gasoline? A focus on simpler buildings would affect every aspect of construction — structure, envelope, systems — and of practice: radically simpler buildings require radically simpler schedules, smaller project teams, and less description with respect to drawings, specifications, and three-dimensional modeling.

Some historic examples — ranging from simple devices to entire building typologies — offer alternatives to excessive complexity and offer more truly "Modern" paradigms that are sophisticated in their conception, underlying principles, and performance, yet simple, reliable, and durable in their final forms. For example, a lower-technology alternative to the mechanical

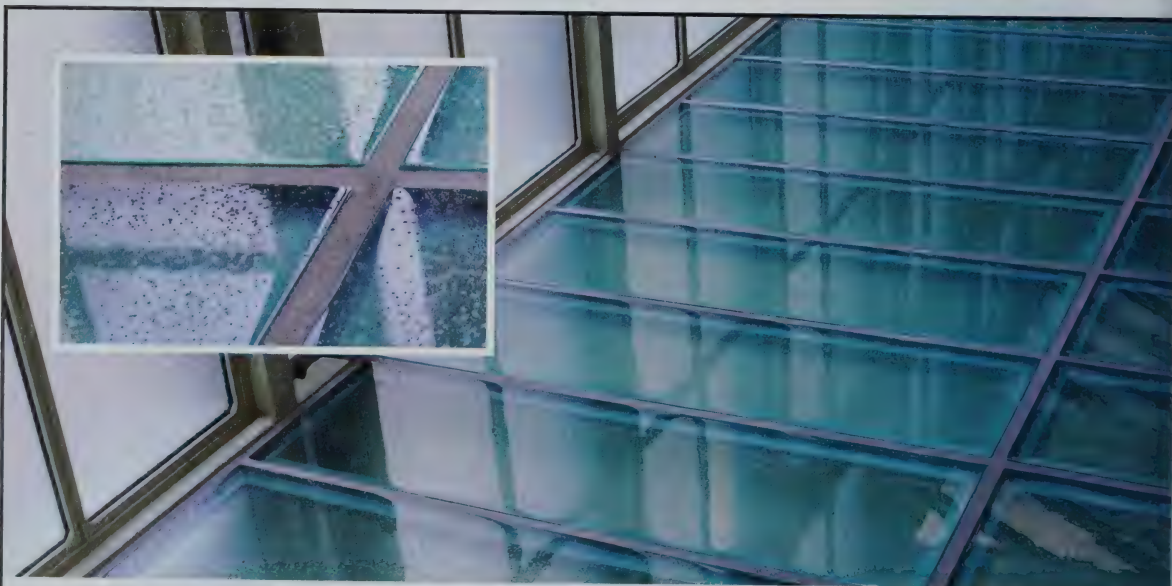
Left: Wine cellar, Nizas, France. Architect: Perraudin Architectes. The monolithic stone construction eliminates the need for complex, multi-layered conventional systems. Photo by Serge Demailly. **Above:** House, Chur, Switzerland. Architect: Patrick Gartmann. Insulating concrete allowed shorter construction time without additional insulation or finishes. Photo © Thomas Dix/archenova.

scraping devices or water-jet machinery often used to clean municipal sewer lines today are the large wooden balls used to clean Paris sewers since the 1850s. A simple wooden ball, slightly smaller than the diameter of the pipe, greatly reduces the cross-sectional area of water flow through the sewer pipe at the ball, thereby creating a natural "jet" of high-velocity water (by the Venturi effect) around and under the ball to simultaneously jet debris and sediment ahead of the ball and propel the ball slowly forward, thus cleaning the pipe remotely using a lower-technology device that uses zero operational energy.

At a larger scale, New England mill buildings offer a similar elegance, which has contributed to the ease with which they have been adapted to other uses: industrial, commercial, residential. Because the buildings have robust, even oversized structures, they can accommodate a range of load conditions. Their floorplate dimensions and open plans often readily support low-energy daylighting and natural ventilation strategies. Their durable materials and simple construction engender excellent serviceability, durability, and "repairability" (e.g., repairing a localized defect in an exposed brick bearing wall is relatively easy, quick, and inexpensive when compared with locating and repairing a concealed localized defect in a vapor retarder or air barrier in a complex multi-layer wall system). Each of these characteristics contributes to the mill buildings' simplicity, adaptability, durability, and hence, sustainability.

In contrast to the general trend of escalating complexity of contemporary design and building practices, a few architects

today are leading by example with thoughtful lower-technology, higher-performance architecture that focuses on durability and reliability. Gilles Perraudin, an architect in southern France, has designed a series of five stone buildings near Nîmes in which large blocks of local limestone compose monolithic wall systems, which suit the local climatic and material conditions. The mass of the stone is sized to fit the thermal lag of the incident solar gains during the day and the cool sea breezes during the evening, thereby mitigating daily temperature extremes that would otherwise over-heat or overcool these buildings, or require significant operational energy to counteract. Perraudin is designing (and reclaiming) a pre-modern system of construction that is appropriate for the ecology and climate of the region. The monolithic stone replaces a plethora of multi-layered systems typical of conventional contemporary walls; in these buildings, stone serves as the structure, enclosure, finish system, and thermal system. Because all these functions are unified in a single-layer system, the monolithic strategy offsets the expensive cost of stone through savings on costs associated with more-conventional construction techniques: materials, time for design and documentation, interaction with consultants, material specifications, labor, scheduling and sequencing, and maintenance. The stone itself has a relatively low embodied energy: although the stone requires energy to extract and transport, its local source and its centuries of durability give it an impressive advantage in long-term lifecycle cost and sustainability in comparison with the typical multi-layered wall. Architects in Switzerland, Austria, and Germany, such



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Today's complex, multi-layered wall sections and increasingly convoluted environmental-control systems are technically analogous to the aesthetics of the Rococo or Victorian periods in architecture.

as Bearth & Deplazes, Miller & Maranta, and Patrick Gartmann, are likewise working on similarly lower-technology, higher-performance approaches for colder climates, often with massive masonry or insulating concrete walls. Other architects are working on passively ventilated, humidity-controlled and cooled buildings in hot, humid climates, reclaiming pre-modern ideas that predate air conditioning. This approach is well exemplified by VJAA's work at Tulane University in New Orleans and the American University in Beirut. These architects are neither historical recidivists nor anachronistic Luddites: they are innovating, by using appropriate technology as the means to rigorously advance design and building practices. In many cases, they are selectively harnessing the latest technology, such as sophisticated analytical software, to analyze, predict, and refine the design and performance of these reclaimed, time-proven design concepts. The result is a hybrid that draws from the best aspects of contemporary building science and from an archive spanning three millennia of proven techniques.

These examples point toward a critical reassessment of our notion of modernity in architectural construction and of criteria

and paradigms for addressing the environmental, fiscal, resource, and practical realities of the 21st century. Obviously, higher-technology complexity isn't always bad or unreliable, but to move forward in a meaningful way — to be more Modern and sustainable — we need to get past pervasive late-20th-century assumptions that ever-escalating technological complexity in building construction is inevitable and invariably better. As a society and as a profession, we need to shift the focus of our creative design energies from the increasingly higher-complexity, higher-technology, and often more highly problem-prone construction approaches of the late-20th century to reclaiming, reinventing, and innovating simpler design and construction strategies that are more prudent, sound, durable, reliable, and sustainable — a more *truly* Modern pathway forward in the 21st century. ■

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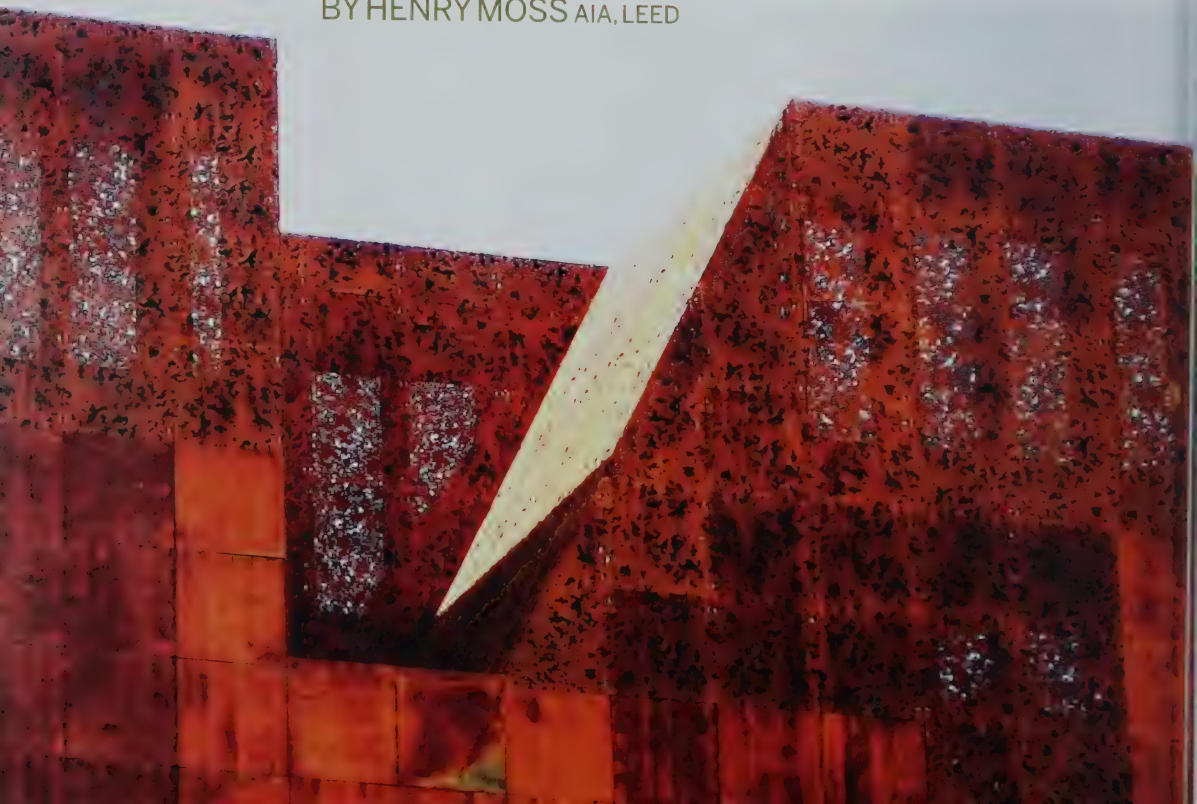
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POLE
THE CO-DEPENDENCY OF MODERNISM
DANCING
AND HISTORIC PRESERVATION IS
AROUND
IN NEED OF AN INTERVENTION.
THE PAST

BY HENRY MOSS AIA, LEED



Pre-modern, Modern/anti-Modern, Postmodern, and now, perhaps, Un-Modern — there is a lot of cultural space out there. So why don't we move through it more freely?

Parsing these categories may expose our unrecognized prejudices and reveal new opportunities. The pre-modern world recognized no separation of nature and society as drastic as our own, instead devising complex cultural boundary systems enforced through pollution control — taboos, ritual cleansing, and ritual punishments — that made possible a cultural stasis inconceivable to ourselves. The modern world brought with it an anxiety about the past that has taken a few centuries to unfold. Postmodernism in architecture recognized the significance of the symbolic content of buildings to ordinary people but foundered, unable to engage the seriousness of either Modern or anti-Modern cultural forces.

The failure of Postmodernism returned us to the Modern and its anti-Modern doppelgänger, both of which fetishized our physical endowment from the past — first as antiquities, then as architectural icons, and now as the embodiment of previous social forms. The schism between new and old energized a strong reactionary movement with a love of traditional forms and an equally strong avant-garde dedicated to a frantic, continuous artistic revolution. In a culture that shuttles from one to the other, we have systemically prohibited a third possibility: an equivalent release of creativity if radical hybrids of old and new could become a major cultural objective.

The bureaucracies of historic preservation operate effectively at many scales of the built environment, but their operating tools and philosophical precepts are derived from the curatorial practices of fine-art conservation — retentive, technical, a-stylistic, and allegedly immune to subjectivity. Implicitly, the path to success in architectural design is through formal invention. Subjectivity is necessary to establish a discernible break with the past. When the underlying client of each new design is the author's conjectural future for architectural history, and *not* Edgar Kaufman, Dr. Farnsworth, or the town librarian of Vipuri, the replication of traditional forms is simply taboo — maybe not as strong as the prohibition against incest, but similar. Historic preservation is about managing change to minimize its psychological impact. Modernism in architecture is about iconoclasm. With their lack of affect, played to attentive audiences, both pole dance around the past.

"Where the old historicism seeks, finally, out of admiration, or at least out of hope, to salvage and recuperate the past, the new historicism seeks out of something closer to suspicion and disillusionment to demystify the past. These are not mere differences of emphasis; they take in and reflect an entire realignment of sensibility, a major alteration in the structure of intellectual desire ..."

— Giles Gunn, *Thinking Across the American Grain: Ideology, Intellect and the New Pragmatism*

There is plenty of historicism to go around. Modernism is full of the stuff, although Gunn's "new historicism" is more likely to survive our reflexive castigation of nostalgia. But the historic preservation ethic that we know today in the United States could



not exist with such entrenched political backing and emotive force outside the modern world. Modernism emerged as an object of hope, a world change worthy of Copernicus. Near-catastrophic upheavals that marked discontinuity with the past were themselves to be eradicated along with the continuation of the past itself — the incursions of satanic mills, world wars, global economic collapse, and new levels of secular centralization through fascism and communism.

"As Nietzsche observed long ago, the moderns suffer from the illness of historicism. They want to keep everything, date everything, because they think they have definitively broken with their past. The more they accumulate revolutions, the more they save; the more they capitalize, the more they put on display in museums. Maniacal destruction is counterbalanced by maniacal conservation ... Historical reconstitution and archaism are two symptoms of the moderns' incapacity to eliminate what they nevertheless have to eliminate in order to retain the impression that time passes."

— Bruno Latour, *We Have Never Been Modern*

The radical phase of historic preservation ended in the United States in 1976 when the Federal Historic Preservation Tax Incentives program created the need for guidelines to ensure that taxpayers' dollars would not underwrite destructive alterations to historic buildings. A smart, flexible document, *The Secretary of the Interior's Standards for Rehabilitation* has helped a generation of planning boards, town managers, and ordinary citizens to protect historic buildings and cultural landscapes that are familiar, beloved, and legible. At the same time, the document and the agencies that interpret and apply it have helped developers, designers, building owners, and historic commissions avoid thoughtless or expedient changes at the expense of architectural character (if not quality). The effect on individual buildings and the older parts of towns and cities has been profound. The document's guidelines remain a significant force within planning as historic preservation increasingly connects to environmentalism, to an emerging tolerance for increasing densities, and to more sensitive juxtapositions or interweaving of different land uses.

Nevertheless, in its own recent past, historic preservation, once a resistance movement against urban renewal and anodyne new construction, is now institutionalized — even bureaucratized. This political success has moved it outside the world of design. Its thought structure has been marginalized by the architectural

Historic preservation, once a resistance movement, is now institutionalized — even bureaucratized. The sad result is little imaginative design.

profession and almost completely suppressed within design studios and theory courses by our schools. Typically, preservation is relegated to some worthy but repressive role within the vast battery of building codes and zoning restrictions. At the same time, local historic commissions increasingly act as design review boards for new architecture that is proposed in contexts dominated by older buildings.

Alongside this development, the language of *The Secretary of the Interior's Standards* has become increasingly prescriptive. The design professions acquiesce — and the architecture schools don't know and don't care. Practitioners with a particular love of historic buildings can specialize and pursue the intricate combination of technical and visual problem-solving skills necessary to comply, but they learn this through practice. The rest may freely embark on a quest to resolve today's design challenges by the invention of new forms conceived *in vitro*.

The sad result of this division into two compartments is that little imaginative design emerges through the transformation of existing buildings where curatorial angst is unmerited. Equally, too little sensitivity may be shown by contemporary designers when they seek to alter and add to significant historic structures.

An "Un-Modern" approach would heighten the design potential of adaptive-reuse projects in the thousands of existing buildings that have little historic significance and little architectural quality, but nevertheless excite curatorial responses and are often enlisted in the effort to thwart large-scale redevelopment, stop the erasure of visual heterogeneity, or simply to slow the pace of change.

After the rush to reconstruct old city centers demolished by Allied bombing, Europeans seemed more open to the potential for vigorous combinations of new and old that do not depend on a mechanistic deference to existing building fabric. Carlo Scarpa's Castelvecchio conversion of ruin to museum might not have been approved by our National Park Service. In the United States, cultural conservatism uses a single word in *The Secretary of the Interior's Standards* as a fulcrum to leverage new architectural moves toward some degree of replication and clear deference. That word is "compatible." In the most interesting additions and adaptive-reuse strategies from abroad, incompatibility is a key component. (For many fine examples, see *Build-On: Converted Architecture and Transformed Buildings*, edited by Robert Klanten and Lukas Feireiss, Gestalten, 2009.)

There are signs that young architects are moving against received wisdom and beginning to attack or ignore the curatorial approach exemplified by *The Secretary of the Interior's Standards*. Paul Byard made wonderfully thoughtful arguments in favor of contrast (as well as complementarity) in his book *The Architecture of Additions*. As director of Columbia's Historic Preservation Program, Byard encouraged his students to

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participate in architectural design studios and was often aghast at their timidity.

Rem Koolhaas recognized the potential for poetic provocation years ago when exploring criteria for preservation policy in Beijing that focused on the vitality of local street life rather than the sanctity of individual historic buildings or parks. He and his colleagues speculated about urban overlays that would preserve *everything* in randomly applied bands while designating others as free-fire zones. This aleatory approach is the opposite of “urban design” and dismissive of the concept of “contributing buildings” in historic districts. A component of his argument (which has the additional benefit of detaching preservation from gentrification) was that preservation in the West had accelerated to the point where no elapsed time is necessary before portions of the built environment are immobilized by preservation agencies.

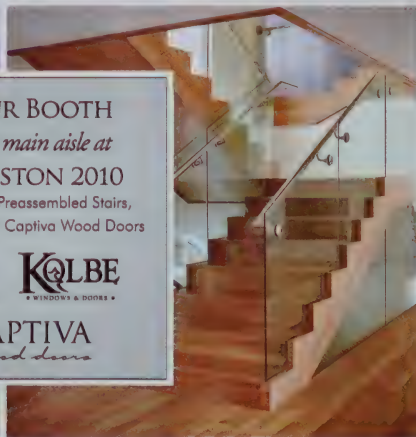
More recently, Koolhaas and AMO have tackled the modernization of Leo von Klenze’s vast Neo-Classical museum complex in St. Petersburg, Russia, through their Hermitage 2014 Masterplan. More than 800 rooms, 3,000,000 artifacts, and 2,000,000 visitors make up the problem set, and AMO sought to supplant the imposition of a “curatorial path” through the museum with an approach that establishes the freedom to move through the museum spaces (including service tunnels) without didactic obligations, encountering collisions of content where *vitrines* in one room might coexist with unimproved storage spaces that hold collapsing Czarist carriages, World War II hospital beds, or shrapnel-torn archival cabinets. Koolhaas

characterizes this approach, essentially avoiding new construction, as “the luxury of nondesign.”

It is worth recalling that Michelangelo never designed a new building. It may take some extreme examples of design with existing buildings to make alternative approaches worthy of the Campidoglio imaginable to us. Herzog & de Meuron’s CaixaForum in Madrid is an excellent candidate. It represents an exuberant inversion of the preservation ethic — but less a self-conscious escape than an exploitation of our visceral response to heavy masonry buildings and our ingrained allegiance to Beaux Arts classical details. The designers levitate a massive 1910 power plant, brick-up its windows, and apply a multi-story lacework of rusting cast-iron above its stone cornice and pediments. Around the corner from the Prado, it is expensive, perverse, glorious — *haute couture* certainly, and with similar intent. Both Koolhaas and Herzog & de Meuron have the stature to grasp and hold our attention. Neither the Hermitage 2014 Masterplan nor CaixaForum flows sweetly out of the historicisms that are central to the Modern/anti-Modern co-dependency. There is little danger that radical reuse and its architectural expression will damage important historic buildings. But an Un-Modern shift in expectations encompassing both old buildings and new may fruitfully reorient our mind and eyes. ■

Henry Moss AIA, LEED is a principal at Bruner/Cott & Associates in Cambridge, Massachusetts, and serves as co-chair of the BSA Historic Resources Committee.

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Rethinking how we think.

by William S. Saunders

Hasty Habits of Mind: A Lament

Intellectuals in architecture form a tiny subculture in which most know most others and thus want to offend none. Architects' careers are precarious and need protecting. We are trying to earn respect for good architecture in a culture not all that interested in it. So we believe that we should stay positive. All this produces a reluctance to be bold and candid when we come across junk and sham.

Negative criticism can seem mean-spirited. It's more pleasant to be post-critical. But the prices we pay are to have too many delusions, especially delusions of grandeur, and to waste time foraging dead ends. It took a ferociously demanding critic, F. R. Leavis, to save my generation of English majors from having to spend much time reading mush like Tennyson's poems or bloviation like much of Milton. To whom have we been able to turn for high standards and fearless iconoclasm? Sorkin sometimes. Huxtable back in the day. And within the academy? Sylvia Lavin and Jeff Kipnis are not timid. Some scholars like Barry Bergdoll are not afraid of taking stands.

We are often intellectually malnourished because we clutch a narrow set of ideas that we perceive, mainly through talk at juries and conferences, to be the only currently legitimate ones. If we look back 30 years, we see a parade of short-lived must-follows: Derrida, Foucault, Lyotard, Deleuze ... The fold. Datascape. The surface. Patterns and tessellation. Words ending in *-ity*. And a coming-to-acclaim of designers and design modes marginalized within two or three years. (This is *not* to say that these figures, ideas, and modes have nothing to offer!)

With a yearning for intellectual hipness comes a scorn for passé ideas. OK, Ptolemy was wrong. But was Chaucer "wrong"? Was Paul Rudolph "wrong"? Beyond science, the category doesn't apply. In *Harvard Design Magazine*, someone said about Sorkin's position, "It's so Sixties." Of course times change, and we must change with them, but *when* something was created doesn't determine its value.

In fetishizing newness, we ensure obsolescence: Issues of *ANY* were exciting in the '90s, but do we turn to them now? Many *au courant* ideas we don't really think through but merely think

about — or, worse, think that we *should* think about. Really fine essays will be engaging 40 years after they were written.

Our subculture has a hard time keeping off the smudges of the adjoining larger cultures of fashion and status-seeking consumerism. Architects reach many more people through the pages of *Elle Decor*, *Icon*, *Architectural Digest*, and *Wallpaper* than they do through *Log*, *Volume*, *Grey Room*, and *Praxis*. The Style sections of newspapers breathe down our backs and tempt us to bend our values. Is serious culture inevitably the domain of a tiny elite? Should it bother us that there are more than half a million purchasers of *Elle Decor* but only one or two thousand for periodicals like *Log*, *Grey Room*, and *Praxis*? Trying to communicate effectively with a broader culture is usually futile.

The director of the Buell Center for the Study of American Architecture at Columbia University framed a recent conference with this question: "How is contemporary architecture discussed and evaluated in public?" The answers aren't always heartening. For every 200 of "us" there are two million like the person who wrote on Morphosis's new Cooper Union building: "Aliens, please park spacecraft elsewhere."

But even within our subculture, there are common modes of "serious" discourse that we should find troubling, and all have to do with a compulsion to move fast while scooping up or tossing out tiny morsels along our paths. Here are four such modes:

Tossed off Tweets: Fast food for the mind, no chewing required. We see this in blogs, but increasingly also in academic discourse. Not taking time is a primary value. Haste doesn't force Tweets to be shallow, but it sure nudges them that way.

Chopped-down content: Conferences are overloaded with speakers who are underloaded with time to develop thoughts and present information. Books serve as clip binders for conference transcripts. Monographs are boosterish photo albums with smidgens of writing or loose compendia of qualitatively uneven short essays. The creation of book content becomes mere *accumulation*.

Indiscriminate and overwhelming content: A lazy tossing-in of everything that can be grabbed partly explains the publication of a few doorstop architectural books of a thousand pages or more. (Tongue half in cheek, OMA recently exhibited 40,000 pages of its publications as *The OMA Book Machine* at London's Architectural Association.) Can and does anyone read such books? Are they not made just to be flipped through like magazines, with at most five minutes of reading now and then? "Boogazines" occasionally present scads of information through complex but cartoonlike graphics—the overall look of the page is dazzling, and this very dazzle discourages patient absorption of details. Information overload induces information ignorance. Exhibitions feature countless words and images impossible to absorb in one visit (this material belongs in books). Magazines lie in mounting piles zipped through once a month. Overall there is a reluctance to be discriminating, to decide what is not worth thinking about. Data, data, more data!

Glib gnomonic generalizing: Easy yet world-encompassing assertions of meaning are offered as profound cultural analysis. This reflects the vast influence of Rem Koolhaas, with his original and revelatory perceptions, presented with subjectively culled evidence but still striking one as diagnostically dead on. (See, for instance, his essays on Atlanta and Singapore in *S,M,L,XL*.) Yet from *Delirious New York* on, Koolhaas has also produced plenty of bloated, ungrounded utterance. His followers, lacking his astounding acuity, imitate just his *mode* of summing up "contemporary conditions." The name of the game is "Assert whatever you can about some special newness

in our social/cultural moment." So when you cryptically write, for instance, about "the current crisis," we join you in pretending to know precisely what you are talking about. We nod our heads in jittery conspiratorial intimacy. We suppress acknowledging that we don't really know or understand.

This mental smoke screen has recently been most obfuscating among some Dutch and American academicians and journalists; in France, it is long familiar. Intellectualism becomes a manner. Research—laborious, lengthy, uncompromisingly careful and responsible investigation—slackens into barstool musings. The compulsion to say something *new* leads to things like this real example from *Volume*: "Treating the [retail] big box as a potential form of high art could lead to an aesthetic breakthrough." Or not.

Perhaps I am writing this in the very mode I am criticizing. Carefully cooked slow food for thought is available for those willing to pull off the main drag (find yourself a copy of *The New York Review of Books*, for starters). There is even some on the main drag. Just take the pedal off the metal. ■

William S. Saunders is the editor of Harvard Design Magazine.

A version of this essay appeared in *The Architect's Newspaper* (May 4, 2010). For a slower, longer discussion, see "From Taste to Judgment: Multiple Criteria in the Evaluation of Architecture," *Harvard Design Magazine*, Winter/Spring 1999 (www.gsd.harvard.edu/research/publications/hdm/back/7saunders.pdf).

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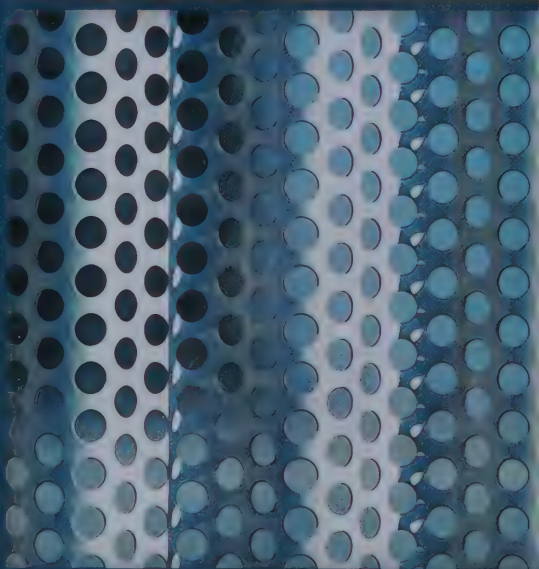
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Photographs by Filip Dujardin

Filip Dujardin is an architectural photographer in Ghent, Belgium.

Educated at the University of Ghent, where he studied the history of art with a specialization

in architecture, he studied photography at KASK (Royal Academy of Fine Arts). His work

has been widely exhibited and published, and is featured in *Beyond Architecture: Imaginative Buildings and Fictional Cities* (edited by Robert Klanten and

Lukas Feireiss; Gestalten 2009). His most recent exhibition was "Imaginary Architecture: Photographs by Filip Dujardin" at the Chazen Museum of Art in

Madison, Wisconsin, in the spring of 2010. For more information: www.filipdujardin.be.

documenting architecture inside out. Dujardin imagines structures, which he builds as cardboard or computer models, and then searches the cityscape of his native Ghent to photograph buildings that will serve as his materials. The resulting montages are simultaneously beautiful, disturbing, and provocative; even the most structurally improbable become plausible in the age of the Koolhaas CCTV tower. Other artists are exploring the manipulation of architecture through Photoshop, but perhaps none combines both technical mastery and knowledge of the subject to make the unlikely so convincingly real.

As Dujardin's work gains more recognition, it is hard to imagine that its unreality will not influence reality. Much as Julius Shulman's photograph of the Case Study House #22 — the icon of Mid-Century Modernism with its dramatic cantilever framing two women perched improbably over a nighttime Los Angeles — fostered countless imitations of Pierre Koenig's design, the architectural concepts presented in these images will undoubtedly find their way into actual buildings. The falsehoods of Shulman's photo — the furniture was on loan, the women were models and not owners — never mattered. That Dujardin's constructions exist only in one man's mind won't matter, either.

— Elizabeth S. Paden FAIA

Now that nearly everyone has given Photoshop a try, if only to fix red-eye, we have all learned to question the authority of the visual document.

But the problem of photography predates photo-editing software and lies in its inherent plausibility — its "deceptive impression of truth," as the *American Heritage Dictionary* defines the term, or its "really truthy lies," as photographer Tim Griffith observes.

It's hard to imagine what path 20th-century Modernism might have followed without the presence of the camera. Manipulated reality is at the core of the relationship between the two: the mere act of framing a view edits an experience. But early practitioners — Hedrich Blessing, Ezra Stoller, Julius Shulman — went further, posing and styling their subjects much like fashion photographers. Their work irreversibly married Modern architecture and commerce — selling individuals on a lifestyle and corporations on a sophisticated brand.

The path of 21st-century Modernism will be very different, partly because its visual transmission will be different. Technology has moved us beyond manipulations of scene and lighting to manipulations of subject and image. Soon, videographic 3-D technology will be commonplace, enabling manipulations of experience.

Striding into this technological free-for-all is Belgian architectural photographer Filip Dujardin, who has embraced the truthiness of photography to create a series of "fictions," turning the process of

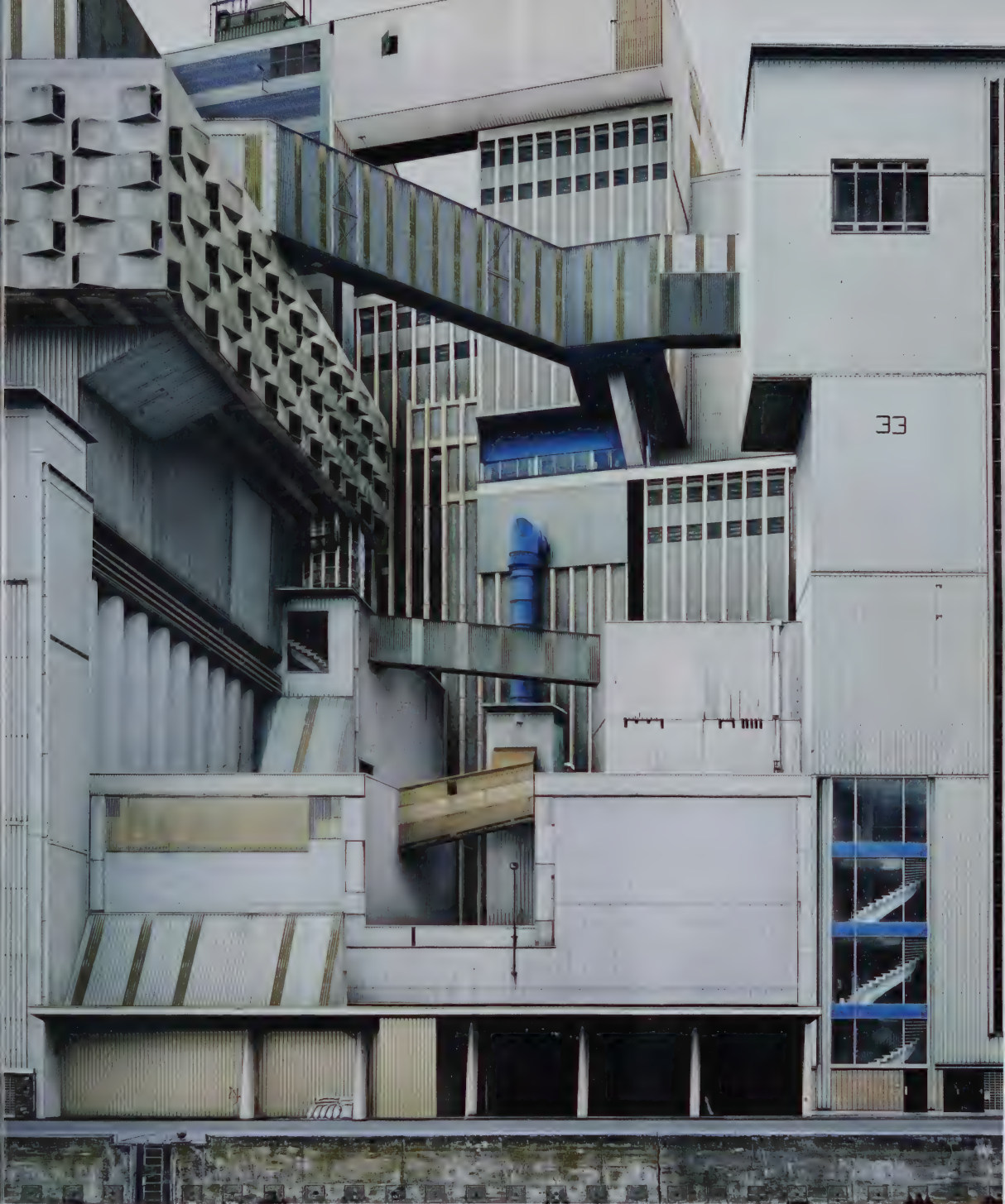




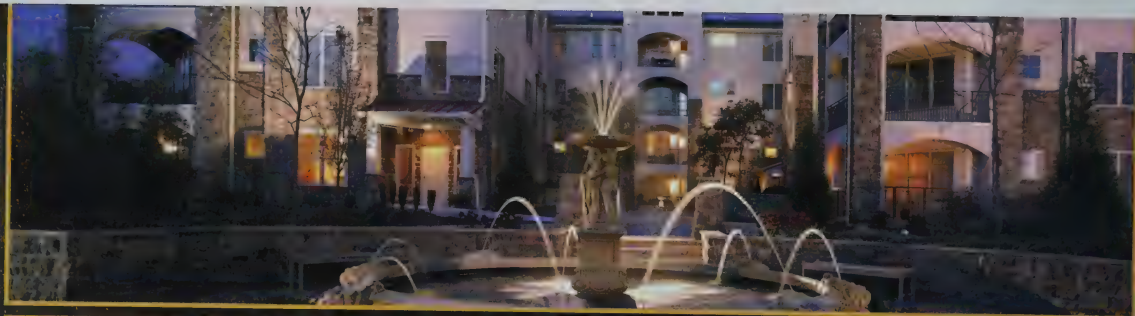








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Covering the Issues

Back to the future... Three billion people will move to cities in the next few decades. How do we avoid an explosion of urban slums while more effectively distributing aid? Economist Paul Romer sees the answer in the 12th-century Baltic coast and British-occupied Hong Kong. In "The Politically Incorrect Guide to Ending Poverty" (*The Atlantic*, July/August 2010), Sebastian Mallaby discusses Romer's plan for "charter cities" — enclaves in which poor nations provide land while foreign governments provide organization; immigration is encouraged. Mallaby describes the concept as places where "dysfunctional nations can kick-start their own development by creating new cities with new rules." Madagascar was interested until the prospect of giving territory to foreigners forced the president out of office. Critics say that the reality is much messier than this neo-medieval, neo-colonial dream.

Opposites attract... Foreign Policy (September/October 2010) also explores the rapidly urbanizing global future in a pair of divergent articles. In "Beyond City Limits," Parag Khanna suggests that the 21st century will be dominated not by nations, but by cities. In New York and Doha today, as in Cairo and Constantinople a millennium ago, "cities are the real magnets of economies, the innovators of politics, and, increasingly, the drivers of diplomacy." Though often criticized as the source of problems, cities may offer our best response to climate change and poverty. In "Urban Legends," Joel Kotkin argues the opposite. Taking aim at proponents of creative-class economies (as well as those who advocate that all density is good), Kotkin notes that "Athens and Rome didn't start out as undiscovered artist neighborhoods," arguing that many urban cores are overpriced and overcrowded, and

their energy use is underestimated. Instead, Kotkin argues for dispersion.

Take a chance... "Bashing Architects with Lawsuit, as MIT Did, Kills Innovation" is the message from James S. Russell (*Bloomberg*, August 17, 2010). The associated negative publicity doesn't help, either. Since most buildings can't be fully tested until they're built, construction sites become, in effect, laboratories for the exploration of new ideas. This risk-taking should be supported, argues Russell. Yet the most unusual designs receive the most attention and, too often, the increased scrutiny is not worth the possibility of bad press. In the case of MIT's Frank Gehry-designed Stata Center, the lawsuit over leaks, mold, and cracking bricks was extremely well publicized, while its "amicable" resolution was kept secret. Sadly, the main lesson is to minimize attention by stifling creativity.

Misunderstood Moderns... It's the 90th birthday of the Bauhaus, so, naturally, it's time for attention. (Can you imagine the 100th?) Martin Filler takes on the recent rash of Bauhaus books (five) and exhibitions (six) in "The Powerhouse of the New" (*The New York Review of Books*, June 24, 2010). Filler crafts a thoughtful and thorough "reassessment of this persistently stereotyped and often maligned powerhouse of modern culture." As he explains the famous school's origins, aspirations, and revolutionary influence, he touches on the contributions of a few unsung heroes, tackling common misconceptions. It's not all about Gropius after all.

Public Space... What makes a great urban park? In "Park Here" (*The New Republic*, September 2, 2010), Sarah Williams Goldhagen explores that question by examining four recent projects: Chicago's



Millennium Park, St. Louis' Citygarden, New York City's High Line, and our own Rose Kennedy Greenway. Boston, sadly, is the cautionary tale, this "useless wind tunnel" of a median strip compromised because city officials never settled on a clear vision and never established a collaborative relationship with the state agency that created the Big Dig. Private donors did not coalesce into an effective leadership force, either; any real hope of innovative, exemplary design was killed by public process. Good design is a form of social justice, not a luxury, argues Goldhagen, as she attempts to uncover exactly why the other three parks are all popular successes and development catalysts. The spirit of Olmsted lives on. ■

Gretchen Schneider AIA, LEED AP is the principal of Schneider Studio in Boston.

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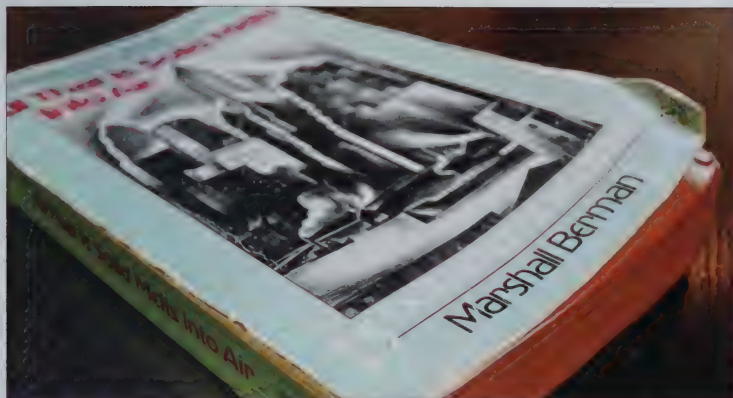
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ALL THAT IS SOLID Melts INTO AIR: THE EXPERIENCE OF MODERNITY

By Marshall Berman

Simon & Schuster, 1982

"I'm afraid I came into contact with Robert Moses in the nadir of his career, when he just didn't give a shit. He didn't care where anybody lived, he didn't care for their arguments. He just wanted to build roads. He just wanted to move people."

That's Marshall Berman — writer, Modernist, Marxist, New Yorker, Harvard grad, for 50 years a professor at City College of New York — talking recently about how one side of the dialogue that is modernity affected him personally. Berman spent his early childhood in the Bronx until Robert Moses famously created the Cross-Bronx Expressway, thus eliminating Berman's entire neighborhood of around 60,000 working-class people. If, as the modern novelist Thomas Wolfe admonished, "You can't go home again," one reason might be that your home has been wiped off the map in the name of progress and development — a peculiarly modern idea.

The modern world we all inhabit is full of these kinds of incidents. Berman's now-classic book, *All That Is Solid Melts Into Air*, is full of them, too. Many are literary incidents, including the book's title, which comes from Karl Marx's modern vision, articulated 160 years ago: "All fixed, fast-frozen relations are

swept away. All new-formed ones become antiquated before they can ossify. All that is solid melts into air, all that is holy is profaned, and men at last are forced to face ... the real conditions of their lives and their relations with their fellow men."

Other incidents in the book, like Berman's visit to a dismal Brasilia followed by critical discussion with its architect, Oscar Niemeyer, are very personal indeed. "I didn't mean to write an encyclopedia of modernity," Berman says now. And he hasn't; but through the entire book, Berman is reaching for the universal, trying to give meaning to a way of living in a world of constant change that has gripped us for a few hundred years.

A theme that runs through *All That Is Solid* is that modernity is not particularly modern. The high regard in which our era holds the notion of constant change is not a product of the 20th or even of the 19th century. One of its earliest incarnations comes from *Faust*, which Goethe began in the late 1700s. In *Faust*, modern men and women confront "development" as a melding of the cultural idea of self-improvement and the social movement toward economic advancement. Faust himself is heroic by virtue of his transformation into a liberator of tremendous human energies.

Some people get to be liberators — architects, engineers, Robert Moses — while others must live with the

consequences of that liberation, two very different experiences.

Berman clarifies this as he investigates Dostoevsky's *Notes from the Underground*, in which the narrator observes: "May it not be ... that [man] is instinctively afraid of attaining his goal and completing the edifice he is constructing? How do you know, perhaps he only likes that edifice from a distance and not at all at a close range, perhaps he only likes to build it, and does not want to live in it."

The distinction here, Berman notes, is between designing and building a building, and actually living in it. And it suggests two fundamentally different modernities: modernization as adventure, and modernization as routine. Architects and engineers have certainly been having an adventure — leaving to others the worry about how that adventure turns into the routine of their lives.

In fact, for most of us, the routine of constant change is pretty hard to live with. To help slow it down physically, we invented, around the middle of the 20th century, "historic preservation." More recently, the notion of "sustainability" has occurred to us as a means for slowing change, of preserving not only buildings and our relationships with them but also what we euphemistically call the "environment" and even more distantly term "natural resources."

We have not yet arrived at the definitive Modern moment. As Berman notes, we still harbor collective hope for moral and social progress, and for the "personal freedom and public happiness that were bequeathed to us by the modernists of the 18th-century Enlightenment." If we think of Modernism as a struggle to make ourselves at home in a constantly changing world, we will realize that no mode of Modernism can ever be definitive.

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THE YALE BUILDING PROJECT: THE FIRST 40 YEARS

By Richard W. Hayes
Yale University Press, 2007

In a few succinct paragraphs, Richard Hayes gives his readers a fascinating history of activism in the late 1960s, connecting President Johnson's War on Poverty to students flooding Appalachia looking for poverty to eradicate, to some of these students bringing specific projects to the attention of Charles Moore, the new dean of the Yale School of Architecture. Thus began the now-famous Yale Building Project, a semester-long, design-build program for first-year architecture students, a program that has continued and evolved since the first heady trip to Kentucky in 1967.

The bulk of this account is taken up with descriptions and photos of the individual projects. While these will be of interest mainly to the participants, two insightful essays by Hayes are worth the attention of a broader audience. It is fascinating to read about the confluence of events and attitudes that led to the earliest projects, the subject of the first essay. The anti-establishment Charles Moore was anxious to move away from the "paper architecture" espoused by his predecessor, Paul Rudolph. Students were

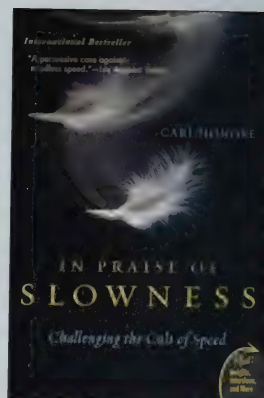
equally restive in the classroom, wanting to do something meaningful, to have an impact on the lives of those less fortunate. The first foray into Kentucky, where the students built a community center with the first flush toilet in the entire town, was a huge success, pedagogically as well as humanistically. The students had crossed an invisible barrier between studying architecture and knowing that they could actually build it, too. Most felt the Building Project was the single most important aspect of their educations at Yale.

The second essay describes the evolution of the project over the ensuing years. An overly ambitious period, when the interest of the students faded well before the buildings were finished, led to years of more-modest pavilions for camps and cultural institutions. Recently, the projects have been small houses in New Haven under the auspices of Neighborhood Housing Services of New Haven.

My own personal connection to the building project spans the whole 40 years: My husband, a member of the first Kentucky project in 1970, felt empowered and enriched by the importance of the work. My class, 10 years later, enjoyed the camaraderie of our adventure, my own goal being to ensure I would be the one to drive the Bobcat. And my daughter, a member of the last class included in this book, felt somewhat alienated from the whole thing: the class was so large that students had to work in shifts, with an ensuing lack of ownership of the project.

While the earnestness of the original classes has evolved into the cynicism of succeeding generations, learning firsthand how a building goes together is still considered by even the most jaded of students to be an invaluable experience. And the Building Project is still the defining rite of passage for Yale architecture students.

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IN PRAISE OF SLOWNESS: CHALLENGING THE CULT OF SPEED

By Carl Honoré
HarperOne, 2004

It remains to be seen whether the changes in consumer spending brought on by the current recession will continue once the economy recovers. What is clear is that many Americans, either by choice or necessity, are reconsidering their lifestyles and putting the brakes on previously unquestioned behaviors. And for some, slowing down consumption is a starting point for attempting to completely reset the frenetic pace of modern life.

Subtitled "Challenging the Cult of Speed," *In Praise of Slowness* documents the personal and social costs of our global obsession with racing the clock and filling every moment with activity, usually under the guise of maximizing efficiency. Carl Honoré takes us on an engaging but often breathless journey into the various ways that people everywhere are struggling to balance the demands of a fast-paced world with a desire to slow down and rethink priorities. The book is not a manifesto against progress or technology, but a call to action to seriously examine the toll that living at warp speed takes on our health, our cities, and our environment.

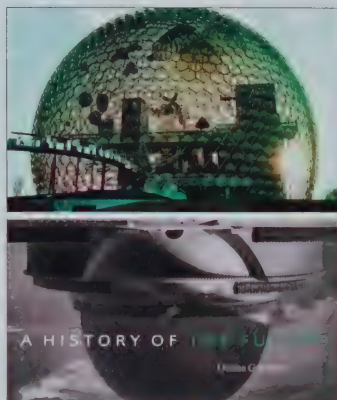
Although the Slow movement has

emerged without an official leader or headquarters, credit is usually given to the international organization Slow Food for introducing Slow principles to a wider audience. With 100,000 members worldwide, Slow Food started in Italy in 1989 as an outcry over the opening of a McDonald's next to the Spanish Steps in Rome. Slow Food is still strongest in Europe, with its rich tradition of local cuisine. However, American membership is rising along with increased awareness of sustainable agriculture and demand for fresh, local, and seasonal food. "Eat well and save the planet" is a message that resonates with a growing group of consumers concerned about the environmental and human health damage caused by industrial farming.

At the center of the Slow movement is this new breed of consumer, more wired to consciously make the connection between individual choices and social implications. Caring about how things are sourced, distributed, produced, consumed, and recycled is a Slow tenet that has moved beyond the dinner table. Since the publication of *In Praise of Slowness*, hundreds of websites devoted to the movement have sprung up. In 2007, a couple of Canadian architects jumped on the Slow bandwagon with Slow Home, a website that educates homeowners on how certain fundamental design decisions can improve how they live, save them money, and reduce their environmental impact.

Honoré's book is a useful primer on what the author sees as a cultural revolution that will culminate with everyone living happier and healthier lives. The larger question is how to transform the individual discovery of the pleasures of slowing down into meaningful policies that could save us from potential environmental and social upheaval. We better hurry up with that answer. Time's a wastin'.

Mark Ruckman is director of research at Minelli, Inc., a Boston-based brand consultancy.



A HISTORY OF THE FUTURE

By Donna Goodman

The Monacelli Press, 2008

"In 1927, film director Fritz Lang dazzled audiences with his extraordinary production of *Metropolis*. This dramatic film portrays a complex vision of a future society burdened by the problems of industrialization." Thus begins *A History of the Future*, Donna Goodman's smorgasbord survey of art, architecture, advertising, technology, and pop culture. Visions of modernity have ever, it seems, been caught between the utopian promise and dystopian consequences of technology, and Goodman traces their expression from humanist roots in the Renaissance through the present.

The book is loosely organized into thematic chapters that follow rough chronological order, with time frames overlapping according to the dictates of each theme as Goodman sees them. After an introductory chapter, she divides the history of design culture into the Machine Age in Europe, the Machine Age in America, the Automobile Age, the Space Age, the Media and Information Age, and the Environmental Age. Each chapter contains 20 to 30 brief discourses on various topics: influential individuals such as Erasmus, subjects such as solar-powered

satellites, phenomena such as postwar housing in Europe and Russia, even films such as *You Only Live Twice*. In other words, the narrative is free-ranging and eclectic as opposed to exhaustive. Each chapter begins with its own indexed table of contents identifying these separate topics, which are then helpfully noted in the margins of the text, making the book especially friendly as a survey resource.

This unconfined approach produces a breezy narrative that moves briskly but suggests an overall theory of history that never really materializes. In cherry-picking material from so many different sources, Goodman presumably seeks to build an argument for some particular point of view—not only of history but also of where history is leading us, as promised in the title. Alas, we get neither.

Writing a "history of the future" seems to be too great a temptation for some authors to pass up: Amazon lists half a dozen titles that take advantage of the wordplay. But as Modernism, which promised to propel us toward the future, approaches its own centennial, a fascination with biographies of our own era is hard to deny. Perhaps we can define Modernism itself as the history of the future.

No matter. Designers will find in the book an engaging review of familiar subjects lightly treated as well as interesting new tidbits. The quarrelsome reader may question some of the longer historical asides as well as the frequently tenuous leaps the author makes in segueing from one subject to the other, and it's doubtful that the uninitiated will have any better understanding of what Deconstructivism is after reading the six or seven pages devoted to it. But if you don't demand a narrative destination, *A History of the Future* is a pleasant ride with lots of interesting scenery.

Michael Liu AIA is a principal of The Architectural Team in Chelsea, Massachusetts.

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www.slowdownnow.org

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SLOW FOOD

www.slowfood.com

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Dairy Queen

It's a sweltering summer evening, and I'm standing in line at a Dairy Queen takeout window waiting to order a plain vanilla cone, the one with the curl on top. Ahead of me in line are a family with young kids, an older couple, and some teens. Other teens are draped over their cars in the parking lot. There are little kids playing in the outdoor seating area. Pasted next to the takeout window is a clipping from the local paper showing the proprietor at a neighborhood event.

It could be 1970 or 1950 or even 1940, when the first Dairy Queen opened in Joliet, Illinois. Except for the fact that now there are more choices. In 1940 there was only vanilla — in cones, pints, quarts, or sundaes.

Dairy Queen founder J. F. "Grandpa" McCullough started out making ice cream. But he thought it tasted best fresh out of the machine, when it was soft and scoopable. If you've ever made your own ice cream and tasted it the minute it finished churning, you know he was right. Fresh ice cream is cold, but not frigid. Your taste buds can appreciate it, which they cannot when it's hard frozen.

The trouble was, he didn't know how to keep it in a semi-frozen state. So he became a man with a mission. He searched and tinkered and finally found a machine that produced a soft product. He figured out that it worked best if his ice-cream mixture was 5 to 6 percent butterfat rather than the 10 percent he had been making. In other words, if it was ice milk. But he was happy with the product. In fact, he said it was a "queen among dairy products, the epitome of freshness and wholesomeness." So when he needed a name to replace the Homemade Ice Cream Company, he came up with Dairy Queen.

The business took off after World War II ended. American families were taking to the road in their new cars in record numbers,

and they liked to stop and treat themselves and their kids to Dairy Queens. This was the era of Mid-Century Modern food — McDonald's (1948), Minute Rice (1949), TV dinners (1954), Tang (1957), instant mashed potatoes (1962) — fast and processed, aligned with the pace and growing industrialization of modern America.

The shops were mostly mom-and-pop operations; the "cone with the curl on top" theme was one of the few constants. It was 1961 before Dairy Queen instituted a consistent design strategy: shops with gabled red roofs and the Dairy Queen logo in a red ellipse. In many locations today, Dairy Queen still feels like a mom-and-pop operation, even with the jaunty new DQ logo. However, it's big business. Dairy Queen is a wholly owned subsidiary of Berkshire Hathaway with nearly 6,000 shops worldwide. Clearly, it has succeeded beyond Grandpa McCullough's dreams.

What about the product? Does it taste like his freshly churned ice cream? Not really. It's not ice cream, for one thing. It's ice milk. The vanilla has little vanilla flavor. The cone itself tastes the way I would guess Styrofoam does.

The ice-cream market has changed since Grandpa McCullough's day. The slow-food and locavore movements have created a taste for locally produced, small-batch, artisanal ice creams. Hopeful entrepreneurs compete to offer ever more exotic flavors; shops display selections of

▼ Photo courtesy American Dairy Queen Corporation.



cones: waffle, sugar, cake, pretzel — with or without chocolate.

But my plain swirl of ice milk is refreshing, and it's hot out. Right now, I don't need the intensity of super-premium 16 percent butterfat ice cream. I don't want cutting-edge flavors I have to appreciate. I don't want hints of hibiscus or nuances of basil in my ice cream.

On a sweltering summer evening, all I want is something light, cool, and refreshing. All I want is the cone with the curl on top. ■

Jeri Quinzio is a food historian and the author of *Of Sugar and Snow: A History of Ice Cream Making* (University of California Press, 2009). Her blog, "Behind the Recipe," can be found at: <http://jeriquinzio.typepad.com>.



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